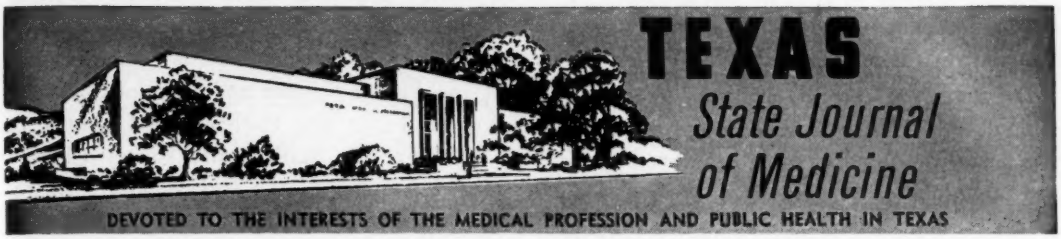

VOLUME 57 • NUMBER 4 • APRIL, 1961

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Subscriptions: $3 per year for members; $6 for nonmembers; $7 for foreign. Single copy: 75 cents.

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Dr. Harvey Renger

Dr. Harvey Renger, Hallettsville, ninety-sixth President of the Texas Medical Association, is a small town practitioner who has, through the years, made his influence felt throughout Texas in medical circles.

From 1952 until 1960 Dr. Renger served as chairman of one of the seven state-wide councils of the Texas Medical Association, the Council on Medical Service and Insurance. He was appointed simultaneously as member and chairman, a double-barreled honor seldom bestowed on an individual by a TMA president. During his tenure as chairman, two insurance programs have been effected, and the Physicians Placement Service has been expanded extensively.

A member of two Association committees, the Committee to Encourage and Assist Hospitals in Securing Accreditation and the Committee on Liaison with Blue Shield, Dr. Renger also is on the board of directors for Blue Cross-Blue Shield. He was, in addition, a member of the Hospitals-Insurance Physicians Joint Advisory Committee for eight years, and in 1951 served as TMA's Councilor for District Eight.

At the national level, Dr. Renger is a member of the American Medical Association's Committee on Medical Service and Insurance; he served a recent term as president-elect of the alumni association of the University of Texas Medical Branch. A Fellow of the American College of Surgeons and the International College of Surgeons, the new president belongs also to the American Medical Association and the Lavaca County Medical Society.

Not one to limit his interests to his profession, he is a breeder of registered Aberdeen Angus. He is the owner of

the Mule Spring Farm near Hallettsville. He also is president of the Hal-Tex, Inc., a grain company in his home town.

Dr. Renger takes pride in his amateur radio station, W5NPW, which he enjoys operating as a spare time hobby; when time permits, he also hunts and plays golf.

Born in Hallettsville on December 29, 1907, Dr. Renger is the son of a physician, Dr. Paul Renger, who practiced from 1900 to 1938 in the same community. The older man built the Renger Hospital in 1917, and in later years, his son replaced the structure with the new Renger Memorial Hospital, a 32-bed hospital, fully accredited. Dr. Renger is proud of the fact that his hospital is entirely private and that no government funds, either county, state, or federal, were used in its construction or continued operation.

The Renger Memorial Hospital established one of the first Vocational Nursing teaching programs in Texas. This was started 11 years ago and Dr. Renger worked diligently to help establish the licensing act for the Vocational Nurses of Texas.

After attending public schools in Hallettsville, Dr. Renger earned a bachelor of arts degree from the University of Texas in 1928 and in 1931 was graduated from the University of Texas Medical Branch. He interned at Kansas City General Hospital, and took postgraduate work at Boston City Hospital before returning to enter practice with his father.

Other members of his family are in the health field; one brother, Paul Renger, Jr., is a medical and x-ray technician. Another brother, Dr. Everett Renger, is a dentist. Both are in Hallettsville. A sister, Mrs. Rosalie Matthews, Austin, is a registered nurse.

On January 9, 1932, Dr. Renger married the former Miss Bernice Driver in New Orleans. She is a native of Taplow, England. The couple has two sons, Wayne and Harvey, Jr.

A member of the Lutheran Church, Dr. Renger has served as a regent for the Texas Lutheran Church in Seguin and is now a member of the board of regents for Texas A and I College in Kingsville. He has been president of the Private Clinics and Hospitals Association of Texas, the Hallettsville Chamber of Commerce, the Hallettsville Rotary Club, a former member of the City Planning Board, and is chairman of the Lavaca County Parole Board. As a tribute to his many civic contributions he was, in 1948, named Lavaca Fiesta King during an annual city celebration.

A versatile man selected for a versatile and demanding job is this doctor who possesses those balancing quotients of interested friendliness with composure—attributes people like to see in a man chosen to lead his professional colleagues.

Some Important Issues

As usual, the House of Delegates has a number of items to be considered during its meeting in Galveston April 22, 23, and 25. They are presented in detail in reports of Officers, Councils, and Committees, and in resolutions that are in the Handbook for Delegates. This booklet should be in the hands of county society delegates by the time this editorial is published.

The more important problems scheduled to come before the House are enumerated herewith, most of them without discussion as to their merits or demerits.

1. The dates for the 1962 session may be May 12-15, instead of the usual April dates.
2. Although the entire report of the Council on Constitution and By-Laws is important, outstanding items are:
   a. Membership in the Texas Medical Association requires legal registration. Temporary license, certificate, or permit will not be deemed adequate.
   b. The number of Trustees of the Association will be increased from five to seven.
   c. The number of delegates a society shall have will be determined by the

number of society members on record December 31 of the preceding year.

d. Intern members of the Association may acquire credit for attendance of orientation programs.

3. The Committee on Association Insurance Programs proposes organization of an investment-retirement program.

4. The Committee on Health Insurance presents resolutions increasing the degree of cooperation between voluntary insurance plan representatives and organized medicine.

5. A resolution from the Committee on Hospital Care of Rural Medically Indigent requests that a commission be appointed by the Governor of Texas to study this problem and recommend appropriate legislative acts to provide for adequate hospitalization of these people.

6. The Committee on Transportation Safety has several important recommendations.

a. Support of an implied consent law which provides that anyone who operates a motor vehicle in Texas implies consent to undergo such measures as law officers request to determine whether he is under the influence of alcohol or other substances.

b. Periodic examination of all drivers of motor vehicles is recommended.

c. Instruction of public school students in driver education is urged.

7. A resolution from McLennan County requests less stringent requirements for foreign interns.

8. Another resolution from Tarrant County Medical Society recommends opposition to the Anderson-King bill.

9. The Committee on Bracero Insurance and Medical Service asks that it be dissolved.

10. The Adviser to State Board of Education recommends dissolution of this appointive position.

11. The Vice President urges continuation of study of problems of the aged, with special emphasis on activity at the county society level.

12. The Committee for American Medical Education Foundation recommends that each county medical society be encouraged to consider the advisability of adopting a resolution calling for contribution of $10 or more to the AMEF by 100 per cent of its membership.

These and other important issues will come before the House of Delegates April 22. It is imperative for proper operation of the streamlined procedure of the House that delegates have an understanding of these issues before their presentation at the first meeting.

—C. P. HARDWICKE, M.D., Austin, Texas,
Speaker of the House of Delegates.

Doctor Distribution

Much used among the many services of the Texas Medical Association are those concerned with doctor distribution and physicians placement.

Surveys and studies to determine the number and location of kinds of practitioners go on continually under the Association's doctor distribution program. The results are useful to physicians seeking places to practice, and also provide some general standard by which to judge the demand in Texas for various kinds of medical and surgical practice.

Texas offers more opportunities for physicians than do most other states. The state's ratio of persons to physicians stands at 1,010 to 1. The national ratio is 775 to 1; thus, there is no need for a physician to seek opportunity elsewhere. However, the ratios take on a different appearance when metropolitan areas are compared with nonmetropolitan areas. Of the 9,300 physicians practicing in the state, 67 per cent are located in the 16 major urban complexes in Texas with populations of 50,000 persons or more. Thus 6,231 physicians are serving 52 per cent of 9,500,000 Texans, an average ratio of 770 persons to each physician in the large population centers. In fact, the

ratio is much lower in Houston, Dallas, San Antonio, and Austin.

The remaining 33 per cent of the state's physicians serve 48 per cent of the population living in cities of less than 50,000 population and in rural areas. In view of the distribution of physicians in Texas, it is to be expected that 90 per cent of the Physicians Placement Service location requests come from the cities, towns, and villages which comprise the 33 per cent.

A discussion of physician distribution leads inevitably to the question of supply and demand; in other words, what types of practice are most in demand? Requests to the Physicians Placement Service vary from year to year, but certain patterns have begun to appear during the past few years. Leading the demand are requests for family doctors. More than 15 such requests are received for each one of the next leading type of practice.

E. E. N. T., now a disappearing specialty, continues to remain high among public wants. Similarly, internal medicine continues to maintain a steady number of requests. Obstetrics and gynecology offers only a fair-to-poor number of opportunities for placement, whereas the demand for pediatricians is strong. Ophthalmology currently offers many opportunities, but a trend toward oversupply is beginning to be apparent because of the increasing number of ophthalmologists who list themselves as seeking a place to practice. Psychiatry and radiology maintain a fair demand, as do orthopedics and urology.

Greatest oversupply in relation to physicians listed and opportunities available is among general surgeons. In this specialty there are 47 surgeons listed for each placement opportunity.

The reader should not be overimpressed with statistics and ratios. Even in the most crowded cities of the state, the dedicated physician industriously devoted to his patients and his practice and pleasing in personality can establish an excellent practice. However, it is apparent that it is easier to build quickly certain types of practices than others, and less populous areas, in general, offer far less competition among physicians than do major metropolitan areas.

Infectious Diseases Symposium

The selection of the symposium of infectious diseases for the presentation from the University of Texas Southwestern Medical School is the result of the rapid development in recent years of what amounts to a new subspecialty in the field of internal medicine: infectious diseases. The creation of this new subspecialty has been a necessary result of many advances in many different areas which have occurred primarily since 1950.

The development of numerous antibiotics and antimicrobials has necessitated the training of individuals with special knowledge of their potentialities, limitations, and specific usefulness. The field of bacterial sensitivity is a large and important one. Studies of sensitivity of bacteria, in turn, have resulted in discovery that bacteria may become resistant to the more commonly used agents. This development of resistance, plus the fact that the lesser antimicrobials are frequently associated with considerable toxicity, has called for experts in the field of infection.

Infectious diseases, moreover, have come to mean much more than the mere contagious diseases many physicians tend to think of when the term is used. Infectious diseases now include all types of infections, whether specific, as in the case of measles, or less specific, mixed, or variable, as might be the case in pyelonephritis. Furthermore, knowledge and identification of viruses have developed strikingly within the past 10 years, and virology, formerly a study almost limited to the laboratory, has begun to be accepted in the field of clinical medicine.

It is for these reasons that a symposium on infectious diseases was chosen as a desirable

contribution from Southwestern Medical School. In the symposium are found papers that exemplify many of the newer and more complex problems facing the physician who undertakes to treat infectious diseases.

—JOHN S. CHAPMAN, M.D.,
Guest Editor, Dallas, Texas.

Poliomyelitis Control

A review of the Poliomyelitis Surveillance Report for 1960 indicates that 55.6 per cent of patients with paralytic cases in the United States had received no polio vaccine; 8.8 per cent, only one dose; 10.5 per cent, two doses; 17.4 per cent, three doses; and 7.7 per cent, four doses.

Further analysis reveals that the most susceptible age group—infants and children younger than 5 years—accounted for 42 per cent of paralytic cases; and that 56 per cent of this group had received no vaccine, whereas an additional 37 per cent had received fewer than four doses. The group 5 through 9 years old accounted for 24 per cent of paralytic cases. Of these, 40 per cent had received no vaccine, and an additional 44 per cent had received three or fewer doses.

These data indicate an urgent need for increased immunization efforts, especially in younger children. To that end, the National Advisory Committee on Poliomyelitis Control recommends immediate intensification of polio immunization with formalin-inactivated vaccine, including combined antigens for other communicable diseases in infants.

First priority should be directed to complete and early immunization of infants and preschool children, and next, to other children under 10 years of age. Efforts should be especially vigorous in areas where less than 85 per cent of preschool children and infants have been completely immunized. Experience indicates that epidemics may occur in such communities. The lack of this degree of protection is especially prevalent among those in the lower socioeconomic group.

Adequate protection can be achieved and maintained only by a highly effective, continuing program of infant immunization. Additional doses are indicated for children on entry to school, and for all when the likelihood of exposure is unusual, such as when poliomyelitis is present or when persons travel into an area where it is known to exist. Intensified use of any vaccine available is also recommended when an epidemic threatens.

—VAN C. TIPTON, M.D., Director,
Communicable Disease Division,
State Department of Health,
Austin, Texas.

Cancer Therapy in Children

Among the significant intangibles that emerge from clinical symposia are the personal philosophies and attitudes of the speakers and the perspectives afforded by the multidisciplinary approach to a common problem. Such was the case with a symposium sponsored November 11 and 12, 1960, in Houston by the University of Texas Postgraduate School of Medicine and M. D. Anderson Hospital and Tumor Institute. During the two-day meeting on the clinical management of children with cancer, chemotherapists (Drs. Sidney Farber and M. Lois Murphy), radiotherapists (Dr. G. J. D'Angio, Lee E. Farr, and Vincent P. Collins) and surgeons (Drs. W. Hardy Hendren and Richard G. Martin) discussed modes of therapy.

The points of emphasis that permeated the discussions can be summarized in a series of guiding principles for the physician responsible for the care of a child with cancer.

1. Prolonged control and worth-while palliation have been achieved with sufficient frequency, even in children with metastatic disease to justify a planned, persistent, aggressive attack, when possible, in solitary or disseminated cancer.

2. All efforts should be directed toward the *total* care of the child. The patient must be given every benefit that laboratory science can offer. Specific therapy is used, when indicated, but only in the general context of management. Only through the cooperation of specialists and the integration of therapeutic methods can the most satisfactory results be expected.

3. Therapy should be introduced with an awareness of the variations, both natural and iatrogenic, in the clinical evolution of the disease. Recognition of complications related to the central nervous system and kidney in acute leukemia, the apparent transition of lymphosarcoma to acute leukemia in children, the occurrence of hemorrhagic cystitis from Cytoxan therapy and hepatic fibrosis from prolonged antimetabolite administration, and the occasional development of nephritis and pneumonitis after radiation—all underscore the need for constant evaluation of the natural history of the individual neoplasm. Knowledge of the spontaneous regression of tumors, for example, of neuroblastoma, should not cause the clinician to rely on the occurrence of this rare phenomenon, nor should it be used to explain away the good results of rationally executed treatments.

4. There must be constant, often imaginative, and even bold attempts to better the results of current therapy. Combinations of standard therapeutic procedures and further exploitation of individual treatment modalities are two challenging areas in which substantial gains have already been made. Examples of combined therapy are utilization of surgery with postoperative radiation; administration of actinomycin D or of 5-fluorouracil with radiation; drugs used as adjuvants to surgery; and use of surgery, radiation, and drug therapy. Perfusion techniques, manipulation of drug dosage regimens, investigative evaluation of newly developed chemical agents, enhancement of or protection against radiation effects, and concomitant antimetabolite-metabolite administration fall into the category of individual treatment modalities that are being developed.

—WATARU W. SUTOW, M.D.,
Houston, Texas.

Babies, Breadwinners Next

A "Babies and Breadwinners" plan to promote polio vaccination of infants and fathers, particularly in low income areas where the need for vaccination is greatest, has been developed by the U. S. Public Health Service and endorsed by its Advisory Committee on Poliomyelitis Control.

In addition, the Service has offered assistance in identifying neighborhood groups needing protection against polio and in bringing the attention of medical agencies concerned with polio control to these nonimmune groups. The Service will continue its active liaison with industry to hasten the availability of oral vaccine.

"God Knows Everything, but the Government Knows Everything Better"

Socialization of Hungary occurred in 1947. Dr. Alpar, who was born in Budapest in 1925, writes of medical practice in a Communistic regime during a 9 year period. For 3 of these years he was a medical student; for the other 6, a physician.

The author now specializes in diseases of the eye in Amarillo.

Union or government medicine are equivalent terms in a Communist country (Russia as well as the Satellite States), since the labor unions are the only organizations which exist. The first right that is taken away from the people is the right to work. Everybody—doctors, judges, lawyers, merchants, teachers, and so on—must belong to the labor unions. Through this setup, the unions control fully the individual's life, at home as well as at work. The name of the Government medical organization in Hungary is the Center of the Trade Unions for Social Security.

The medical profession has nothing to do with the management of the government medical system; therefore, the entire organization is infected with bureaucrats and bureaucratic procedures. If the patient wants something, he has to fill out several obscure papers. (Dr. C. N. Parkinson, in his book entitled "Parkinson's Law and Other Studies in Administration," has given some ideas about the idiocy of the bureaucrats.) The physician has to spend about 50 per cent of his time with papers of different shapes and colors to prevent the use of carbon paper. Time allowed for a physical examination is limited. The labor union compares the efficiency of a clinic with that of a factory, and strict orders are issued as to how much time a doctor can spend with a patient. My time, as an ophthalmologist, was limited to an average of 3 minutes per patient, but when I left the country, there was a movement to decrease this time to from 1.75 to 2.25 minutes.

Many of the patients go to the doctor to have a day or two off, and the doctors' decisions are based mostly on nonmedical facts. After several hours of waiting, the patient is able to see the doctor. To save time, there are more than one patient in the physician's office: the one presenting his papers and others who are waiting to be examined, who have been examined, and who are having post examination papers completed.

After the examination the physician has to decide what the patient is to do. Very few patients wish to return to work. About half of them want to go home for sick leave. The other 50 per cent want to go to the hospital and stay there for weeks because they get food, it is warm there, and they do not have to work.

The doctor has to find out how great the patient's union and Party connections are, and how much of his demands are blackmail. Also, the physician has to consider his own position with the unions and the Party because:

1. If he believes that the patient is sick and should not work, but the panel of overseers (usually composed of one doctor, who is a bureaucrat, and three or four union men) think he should, the physician is in trouble.

2. If he thinks the patient is not sick but if the patient believes that he is and has powerful connections, the physician is in trouble.

3. If the patient has no powerful connections, he is in trouble.

There is no free choice in selecting a physician; furthermore, there are no medical secrets or privacy. The workers' panel examines all of the records. They make medical decisions, and by political pressure can force doctors and patients alike to follow their way. If, for instance, a woman wants to have an artificial abortion, the panel can force any doctor to perform the operation. If he refuses, he is "a servant of the clerical reactionists."

Of course, under these circumstances, the doctor-patient relationship is destroyed. So are the standards of medicine, since there is no hope for medical practitioners to advance in position or in finances, nor is there competition. No physician reads or tries to invent anything. The bureaucratic red tape has stilled everything. When the doctor finishes his daily fight with patients and the union bosses, he goes home and cleans the house, and perhaps fixes the faucets because he cannot afford to hire someone to do it for him. Laymen decide which instruments he needs and when, and many time it takes months to get a replacement because it is not in the plans and budgets.

Who suffers from this system? Much more the patient than the doctor. Who likes it? Nobody. In spite of the inferior care it affords, the cost of the system continues to increase. In a magazine I received recently from Hungary, figures on the cost of the government medical program are given. In 1958 this cost was $900,000,000 more than in 1957; it was at that time $9,600,000,000. The number of beds in hospitals and homes for the aged has increased only from 47,000 in 1948 to 70,000 in 1958.

—JOHN J. ALPAR, M.D.,
Amarillo, Texas.

"By the way, did the medical journal print your letter to the editor?"

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Accidents Kill 92,000 In U. S. During 1960

About 92,000 persons died as the result of accidents in the United States in 1960, report statisticians of the Metropolitan Life Insurance Company. Motor vehicle accidents were responsible for 38,000 lives last year, a few hundred more than in 1959, reflecting an increase in travel. Accidents in and about the home took 26,500 lives, an increase of about 500 over 1959. About 16,500 persons died as a result of public accidents other than motor vehicle, while those fatally injured in employment accidents were about 13,800.

PRESIDENT'S PAGE

A Winning Combination

Rapid advances in good patient care in recent years have brought remarkable medical progress, but in the opinion of many, they also have tended to make medical care cold and impersonal.

It is a mistaken notion about science that to be objective one has to be hardened. Of course, a surgeon should not go into the operating room depressed, but the steel should be in the scalpel, not in the relationship between him and his patient. Sickness is usually a crisis in life, and the more "humaneness" and kindness that surrounds the doctor and his associates, the better it is for the patient and his loved ones.

Frequently, both physician and patients have sensed a loss of individuality. They miss that feeling of warmth and understanding which is a vital ingredient in the art of medicine. To regain individuality, physicians must humanize and personalize the practice of modern medicine. Probably the thing most needed in medicine today is a way to combine modern scientific methods with the personal, friendly touch of the old time family doctor. Even though there are tremendous stores of knowledge, techniques, and drugs, skills and the prescription pad are no substitute for kindness and understanding.

Dr. Stuart C. Cullen, California anesthesiologist, recently referred to "an array of electronic gear, beeping or groaning or rolling out reams of lined paper." His objection was not to many of the electronic recording devices as such but to doctors who have "become deluded into thinking that these gadgets can provide more valuable information, superior to that of well educated fingers, eyes, ears and good clinical judgment." He is of the opinion that machines can be wrong and that skills and judgment deteriorate through disuse.

Egotistical self-centeredness is the original sin that has stayed with most of us all too long. Fortunately, there is a growing conviction that both physicians and patients need a better appreciation of the part played by every member of the health team. Working together and understanding one another's problems, physicians and their co-workers can anticipate a golden era of progress in medicine.

May Owen

Symposium on Infections

Human

Four groups of acid-fast organisms, their features, and their relationships to disease are summarized. Suspicion of infection from these organisms is aroused by a disease process resembling tuberculosis. Treatment may include surgery to supplement medical therapy.

JOHN S. CHAPMAN, M.D.

For many years, laboratories encountered acid-fast organisms possessing unusual characteristics, but they were regarded as contaminants or of no clinical significance. Beginning with the work of Timpe and Runyon,[14] a working classification of these organisms has been accomplished, and successive studies have established their relation to disease. Some features of acid-fast infection are summarized in this article.

It is still uncertain whether a proper designation of the disease produced by these organisms will be "tuberculosis caused by . . . (name of the organism)," "para-tuberculosis," or "mycobacteriosis" with its subgroups. The trend seems to be to continue the term "tuberculosis" and to follow that term with the designation of the particular type of organism involved, though current methods of nomenclature should favor the term "mycobacteriosis."

Dr. John S. Chapman, assistant dean of postgraduate education at the University of Texas Southwestern Medical School, Dallas, is guest editor for this issue's Symposium on Infections, which includes eight scientific articles prepared by faculty members of the Southwestern Medical School, and their associates.

Mycobacterial Infection: A Review

Bacteriology

The organisms involved have been divided by Timpe and Runyon into four main groups: I, photochromogens; II, scotochromogens; III, nonchromogens; and IV, rapid growers. Although it has been suggested that anonymous mycobacteria may be mutants of the human tubercle bacillus, they may be distinguished from the human organisms by a number of different tests. Anonymous organisms are niacin negative, neutral red negative, nonpathogenic for animals other than mice, usually strongly catalase positive, often resistant to isoniazid and to streptomycin. Other differential tests include cording, pigment production, reaction with neotetrazolium, and unusual ability to tolerate adverse conditions such as heat, drying, and cold. Although it is possible for isoniazid to produce an isoniazid-resistant mutant of the human strain, it seems unlikely that a single drug could produce genetic change in as many as ten different characters. Furthermore, these organisms were known before isoniazid was available, but their position in pathogenesis was not understood.

Anonymous mycobacteria can be differentiated from each other by the production of pigment, the rate of growth, and the shape and character of the colony. Information is incomplete, but groups of these organisms appear to have characteristic geographical distribution in the United States. Reports[2, 6, 10] indicate a high frequency of scotochromogens in the northern part of the nation, a preponderance of photochromogens through the central portion, and predominance of infections with nonchromogens in the southeastern area.

A result of the isolation of anonymous mycobacteria from human material was the development of antigens for skin tests. Affronti[1] prepared purified protein derivatives of material obtained from different organisms. Edwards and Palmer[4] discovered that

From the Department of Internal Medicine and the William Buchanan Laboratory of the University of Texas Southwestern Medical School.

a purified protein derivative (PPD) prepared from what is reported to be P-39 in the Runyon series produced a high percentage of skin reactions in persons in the southeastern part of the United States, and partly accounted for a considerable number of small tuberculin reactions. Since then materials of an O.T.-like character have been prepared from selected and characteristic strains of each group.[3] When these antigens were used, reactions varied geographically according to frequency with which organisms were isolated from human material. Since these organisms produce cutaneous hypersensitivity, it might be expected that serum of patients infected by them contains detectable antibodies. Parlett and Youmans[9] have been able to show by means of the Ouchterlony method definite serologic differences between groups described by Runyon. These findings have been confirmed by similar types of studies carried out by the Buchanan Laboratory in Dallas. It appears that the organisms are immunologically distinct with respect to groups, but in highly sensitized individuals there may be considerable overlapping of reaction.

Pathology

Pathological lesions produced by these organisms in animals and in man are not readily distinguishable from lesions produced by the tubercle organism. In the lymph nodes of humans the lesions are more moist and purulent than the usual tuberculous lesions,[12] but giant cells and caseous necrosis are regularly present. In the lung, lesions appear to be associated with less reaction about cavities and probably with a greater degree of nonspecific bronchitis.[7] Miliary dissemination has been reported with one of the anonymous organisms as the sole cause of infection.[11] Small lesions are sometimes non-necrotic. In experimental animals one encounters caseating lesions but also noncaseating lesions which closely resemble sarcoidosis.

Up to the present most lesions affecting the human lung have been associated with Group I and Group III organisms, and lesions involving superficial lymph nodes have been associated with Group I and Group II organisms. Rare instances of pulmonary disease caused by Group II organisms have been reported by Wolinsky[15] in individuals who had been exposed to injurious agents such as fumes from welding. Osseous lesions have occasionally been encountered in association with one or other of these acid-fast strains, and photochromogens have on occasion been cultures from the urine when an abscess of the kidney was present. Miliary lesions have been mentioned. In a case of meningitis the organism involved has been classified by Runyon as a rapid grower.

Incidence

It is impossible to estimate incidence and prevalence of infections caused by these organisms. At the Buchanan Laboratory, 40 tonsillar swabs were taken from children, and 3 produced acid-fast organisms belonging to one of these groups. In a group of orphans studied by Dewlett and others[3] in the Dallas area, there was a higher response to the photochromogenic O.T. than to human O.T. Parallel studies[8] on medical students in Dallas revealed a similar higher incidence of photochromogenic than human reactions.

In the past 3 years local studies on infected superficial lymph nodes from 14 patients revealed 2 organisms that were indubitably human, 2 organisms that could not be identified, 8 photochromogens, 1 scotochromogen, and 1 nonchromogen. All of these were in children. Likewise, 6 to 8 per cent of adults admitted to Woodlawn Hospital or to the Veterans Administration Hospital at Dallas have had photochromogens as the sole cause of pulmonary lesions that resembled tuberculosis. In Dallas County, the predominant organism is a Group I strain, both as encountered in clinical disease and in reactions to skin antigens. Hence, cutaneous hypersensitivity is common, while manifest disease caused by Group I organisms is infrequent in Dallas residents.

At Houston, results in isolation of organisms are much the same. In Chicago, Lester found Group I organisms to be preponderant in pulmonary lesions not caused by *M. tuberculosis hominis.* On the contrary, most isolations from sputum or tissue in Georgia and northern Florida[2] were Group III organisms.

Organisms that present geographic variations in frequency may be free-living. Preliminary studies at Buchanan Laboratory suggest that the anonymous mycobacteria are hardy. An English author has written that they may be found in "stale water." If further confirmation is forthcoming the evidence will favor environmental contamination rather than person-to-person transmission.

Clinical Features

Clinical syndromes produced by infections with these various agents in many ways resemble those produced by the human tubercle bacillus. Certain differences, however, may be observed. The patient who has chronic cavitary disease of the lung caused by anonymous mycobacteria, in general, has fewer systemic symptoms than the tuberculosis patient. Loss of weight, malaise, fatigue, and fever are usually less striking. Cough may be minor or insignificant and attention is called to the disease only by the occurrence of a brisk hemopytsis. Pleurisy is uncommon.

In the more generalized forms of disease or in acute pneumonic processes the systemic symptoms are much more striking. An instance or two has been encountered in which the onset of disease was like that of acute pulmonary abscess or pneumonia. Necrosis and cavity formation occurred within 5 to 10 days.[18]

Lesions in lymph nodes have proved usually to be more rapidly progressive and acutely suppurative than the ordinary tuberculous process. Osseous lesions are rare and generalization is not possible. An instance of a cyst-like structure which slowly increased in size and involved the joint comparatively late in the course has been observed.

Diagnosis

A suspicion of infection by anonymous mycobacteria is aroused by a disease process resembling tuberculosis but usually associated with a milder systemic reaction; the lack of contact with tuberculosis; a tuberculin skin test either negative to 1:1000 O.T. or not exceeding perhaps 5 mm. in diameter. Diagnosis is established by the culture of organisms from biopsy or from secretions. Differential characteristics of organisms in culture and in experimental animals have been discussed.

The differential diagnosis is between infection caused by the human or bovine tubercle organism and the infections caused by pathogenic fungi. The negative or weakly positive reaction to O.T. 1:1000, the absence of positive complement fixation tests and positive skin tests for the fungi are points of immediate importance. Occasionally, the infection has to be differentiated from carcinoma of the bronchus, abscess, and various types of pulmonary cysts. Bronchoscopy with aspiration of material for both histology and culture may be necessary. Biopsies of tissue should be cultured as well as studied histologically. In the author's experience, biopsies have not been associated with delayed healing or late breakdown of surgical wounds.

Treatment

The treatment of infections caused by these organisms is hampered by the fact that most of them show some degree of resistance to isoniazid when tested *in vitro*. Resistance to streptomycin is less common. The ideal combination of drugs in most cases is daily streptomycin 1 Gm., associated with isoniazid in one of the higher dosage schedules, such as 300 mg. three times daily. When isoniazid is used at this level, pyridoxin (50 mg. or more) should be administered.

In vitro studies suggest that if additional medication is indicated, chloramphenicol or erythromycin may have some effect. It is not known whether these drugs are potent *in vivo*.[5] Wolinsky has evidence that cycloserine is useful.

Whatever the drug regimen chosen, it should be continued as long as seems optimal in tuberculosis, that is, at least 18 months.

Medical therapy often has to be supplemented by surgery. In all cases, the author recommended excision of diseased lymph nodes when they were superficial. Accessible pus has been drained as though it were caused by any pyogenic organism. Cavitary disease in the lung generally has responded less well than cavitary disease caused by the human organism, and resections have been done in greater numbers and earlier than in most cases of human pulmonary tuberculosis. When it has been necessary to carry on drug regimens for considerable time, the organisms often become completely resistant. In these cases considerable risk is associated with resectional surgery, and some type of thoracoplasty may constitute the surgical attack of choice.

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♦ Dr. Chapman, the University of Texas Southwestern Medical School, 5323 Harry Hines Blvd., Dallas 35.

Symposium on Infections

Uncommon Manifestations of Tuberculosis

Encountered in a General Hospital

Many forms of extrapulmonary tuberculosis respond to appropriate chemotherapy, thus making the prompt accurate diagnosis of tuberculosis increasingly important. Selected problems of cases in a general hospital are illustrated.

GEORGE A. HURST, M.D.*

JAY P. SANFORD, M.D.

MORTALITY FROM tuberculosis has shown a steady decline during the past 10 years; however, a parallel decline in morbidity has not occurred.[1] As a result, the reservoir of tuberculous patients, many of whom represent recalcitrant individuals with far advanced infection, is increasing. Thus, we may expect to continue seeing undiagnosed tuberculous patients and patients in whom the disease has progressed or relapsed.

It may sound trite to state that the clinical picture of tuberculosis is protean, but unusual features of tuberculosis occur and they constitute difficult diagnostic problems. Early diagnosis has become increasingly important with the availability of effective chemotherapeutic agents. Extrapulmonary manifestations of tuberculosis encountered in a general hospital will be presented and tuberculosis as a treatable infectious process will be reemphasized.

Case Reports

CASE 1.—*Tuberculosis presenting as a breast nodule.*

A 48 year old Latin American female was admitted to Parkland Memorial Hospital on April 20, 1960, for evaluation of a lump in her left breast.

Early in April, 1960, she developed a dull aching pain in the left breast, followed by swelling and a tender lump in the same area. She had no cough, malaise, fever, weight loss, or other constitutional symptoms. Past history revealed

From the Department of Internal Medicine, The University of Texas Southwestern Medical School, Dallas, Texas.

*Post-Doctoral Trainee of the National Institute of Allergy and Infectious Diseases (2E-30 [R2]).

that the illness may have begun in August, 1953, when the patient noted a painful lump in her right breast. This developed over a period of 2 weeks and drained purulent material. A punch biopsy had shown a few chronic inflammatory cells, but there was insufficient tissue to establish diagnosis. An incidental diagnosis was diabetes mellitus. The breast lesion was treated with saline soaks and penicillin and within 4 weeks healed completely.

In September, 1957, she developed a productive cough, fever, chills, and weight loss of 30 pounds in the course of 4 to 6 weeks. Following a roentgenogram which revealed an infiltrate scattered throughout the right lung with a small cavity behind the second right rib, she was admitted to Woodlawn Hospital on October 21, 1957. Positive sputum cultures for *Mycobacterium tuberculosis* were obtained, and isoniazid (INH) and para-amino salicylic acid (PAS) therapy was started. She left the hospital against medical advice in 6 months. She took INH and PAS until February, 1959.

On admission in April, 1960, abnormalities on physical examination were limited to the left breast, which contained a red, tender, 6 by 7 cm., firm mass in the outer quadrant.

Laboratory findings included: hemoglobin 12.5 Gm. per cent, white count 8,500/cu. mm. with 63 per cent neutrophils, and fasting blood sugar 200 mg. per cent. Three gastric washings and three 24 hour sputum specimens were subsequently negative on culture for *M. tuberculosis*. A chest roentgenogram showed a strand-like and nodular infiltrate in the right upper lobe. A bone survey revealed no abnormalities.

The patient was prescribed chloramphenicol. The mass became softer and on the fourth hospital day an abscess containing 50 cc. of a dark, reddish, foul-smelling purulent material was drained. The routine culture of this material was sterile, but smear revealed several acid-fast bacilli. Pathologic diagnosis of the biopsy was chronic inflammation. The patient was again placed on INH 750 mg. daily and PAS 15 Gm. daily, both in divided doses. She had an uneventful postoperative course and was discharged from the hospital. When seen in clinic 6 weeks later, her wound had healed.

Comment: This patient presented the differential diagnosis of a breast nodule including consideration of inflammatory carcinoma. At surgery, it was apparent that the lesion was an abscess. Tuberculosis was not considered until routine smears were reported. The importance of "routine" smears and cultures on all abscesses to include examination for tubercle bacilli and fungi is well illustrated in this patient.

Tuberculosis of the breast is a rare disease. Goldberg quotes Deaver and Herman's experience in 1914. The two found five cases among 600 operations for mammary disease (0.8 per cent).[7] One might speculate that the patient's tuberculosis was presented as a right breast abscess 4 years prior to onset of pulmonary symptomatology; and further, at a time when her pulmonary disease was stable and presumably inactive, she developed another abscess in the opposite breast.

CASE 2.—*Tuberculous enterocolitis presenting as carcinoma of the colon.*

A 28 year old Sioux Indian female, vocational nurse, was admitted to Woodlawn Hospital on April 24, 1960, because of an abnormal chest roentgenogram. She was well until February 20, 1960, when she developed the "flu," characterized by nausea, vomiting, fever, chills, diarrhea, and low back ache. She continued to work during this illness and her symptoms improved over a 2 week period. However, about the time that she was getting over the "flu," she began noting night sweats and a cramping epigastric pain. In the latter part of March, she again developed loose bowel movements, and her epigastric cramping pain increased. In the first week of April, she developed suddenly a morning cough productive of thick green sputum.

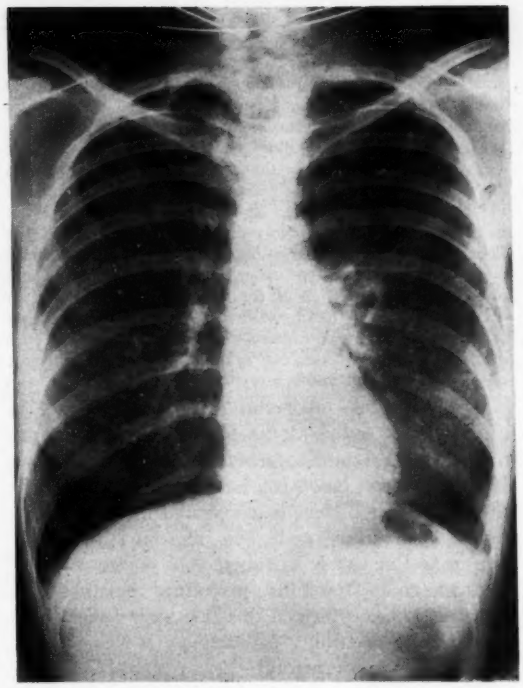

Fig. 1. Chest roentgenogram showing cavity in superior segment of left lower lobe with some pericavitary inflammation.

The family history included tuberculosis. A younger sister had been treated in 1952 for tuberculosis of the glands at a public health sanatorium in South Dakota. Two sisters had died with intestinal obstruction.

The patient had a routine chest roentgenogram 6 years earlier and was told that she had "only calcified areas." In 1951, the patient had a cholecystectomy because of jaundice secondary to multiple stones.

The patient, a thin Indian female, appeared chronically ill. Her temperature was 99.8 F. Examination of the chest revealed amphoric breath sounds over a localized area in the left posterior chest at the junction of the seventh rib and the spine. Examination of the abdomen revealed slight tenderness in the left lower quadrant. No organs were palpable. The bowel sounds were hyperactive and somewhat high-pitched.

The hematocrit was 30 per cent, and white count 11,650/cu. mm. with 80 per cent neutrophils. Three stool guaic examinations were negative. Acid-fast bacilli were seen on sputum smear and subsequently *M. tuberculosis* was cultured. A chest roentgenogram revealed a cavity in the superior segment of the left lower lobe with some pericavitary inflammation (Fig. 1).

In the hospital, the patient's main complaints were continued abdominal cramping pain, inability to eat, slight nausea, and occasional loose stools. On April 29, 1960, a barium enema demonstrated a 6 cm. napkin-ring constriction of the transverse colon close to the splenic flexure (Fig. 2). At that time she was given INH 900 mg. daily and PAS 15 Gm. daily. She was transferred to surgery for abdominal exploration. At surgery on May 16, 1960, nodular granulomatous involvement of the majority of the ileum, cecum, ascending colon, as well as the proximal one-half of the transverse colon, were found. Thirteen cm. of the constricting lesion of the transverse colon as well as 4 cm. of the distal ileum were removed and the segments of bowel were re-anastomosed. Pathologic sections of the specimens revealed caseating granuloma and the cultures were positive for *M. tuberculosis.*

Comment: The preoperative radiologic finding of a constricting lesion of the transverse colon led the staff to suspect carcinoma. An isolated tuberculoma of the transverse colon is a rare clinical occurrence.[17] At surgery, the patient demonstrated more extensive disease than anticipated. This illustrates the difficulty to define extent of tuberculous enterocolitis by roentgenogram. Carefully performed small bowel roentgenograms, which in this case were omitted because of the possibility of complete bowel obstruction, frequently are helpful.

This case illustrates many features typical of tuberculous enterocolitis. Diagnosis is made pathologically more often than clinically. The incidence varies from between 64.8 per cent to 81 per cent in necropsy series of patients dying with pulmonary tuberculosis.[3, 14, 15] Combined lesions involving both small and large intestines occur 4 times more frequently than solitary lesions involving either the small or large bowel.[3] The terminal ileum and cecum are most common sites of involvement.[12] The abdominal symptomatology is nondescript. In 94 per cent of patients with enterocolitis, there is coexistent pulmonary cavitation.[15]

Involvement of the bowel was too extensive to be removed completely, but after 10 days of antituberculous treatment the patient no longer had abdominal pain and her appetite had returned. This response illustrates the observation that tuberculous enterocolitis usually responds more rapidly to treatment than does pulmonary tuberculosis.[10]

CASE 3.—*Tuberculosis presenting as rapidly developing ascites.*

An 18 year old Negro housewife was readmitted on July 6, 1958, to the gynecology service 25 days postpartum for evaluation of fever associated with the development of ascites.

She had been admitted on June 15, two days following the home delivery of a nonviable premature fetus and was discharged in several days with no apparent complications. She did well until June 26, 1958, when she noted the onset of watery loose bowel movements which persisted until admission. Within 4 days she developed fever and a mild nonproductive cough, followed by rapidly developing painless abdominal distention.

Fig. 2. Barium enema demonstrates a 6 cm. napkin-ring constriction of the transverse colon close to the splenic flexure.

The patient's present illness may have dated back to April, 1958, when she had been admitted to the hospital with complaints of a hacking cough of 3 weeks' duration, fever, and right-sided pleuritic chest pain. Abnormalities on physical examination included a temperature of 101 F., dullness, absent breath sounds over the chest at the right base, and a garvid uterus of approximately 4 months' gestation. Laboratory studies included a chest roentgenogram which showed a density in the right lower lung field and a white blood count of 7,800/cu. mm. with 67 per cent neutrophils. The admission diagnosis was bacterial pneumonia and she was treated with penicillin and tetracycline for 5 days. Her temperature remained between 100 and 101 F. and chloramphenicol, streptomycin, and erythromycin were substituted. She became afebrile within 2 days. Roentgenograms on the ninth day revealed a pleural effusion. Thoracentesis of the right chest yielded 500 cc. of straw-colored fluid which contained 3,800 leucocytes/cu. mm. with 63 per cent neutrophils. This had 5.5 Gm. per cent protein, and was sterile on culture for pathogens and tubercle bacilli. Skin tests, including second strength purified protein derivative tuberculin (PPD), were all negative. She was discharged asymptomatic after 1 month's hospitalization.

On physical examination at readmission in July, 1958, she was slender and her temperature was 103.2 F. There was decreased resonance on percussion and decreased breath sounds over the right chest below the level of the scapula. Her abdomen was distended and demonstrated physical signs of ascites.

Laboratory findings included the following: hemoglobin 9.4 Gm. per cent and leucocyte count of 9,800/cu. mm. with 82 per cent neutrophils. Chest films revealed considerable clearing of the previously noted pulmonary effusion; however, there was still a loculated effusion at the base.

Her course was characterized by daily temperatures up to 104 F. despite treatment which included penicillin, tetracycline, and chloramphenicol. On July 10, 1958, a paracentesis yielded 1,200 cc. of fluid from which *M. tuberculosis* was subsequently cultured. Skin tests were repeated and were negative. On July 14, 1958, three days following a diagnostic dilatation and curretage, she developed vaginal bleeding which became so profuse that an exploratory laparatomy was performed. The omentum and the peritoneum were studded with miliary lesions that were subsequently found to be caseating granulomas. The uterus and adnexa were removed and demonstrated chronic granulomatous endometritis, myometritis, and salpingo-oöphoritis compatible with tuberculosis. Postoperatively, INH, PAS, and streptomycin were begun and within 15 days she became afebrile. On August 8, 1958, for the first time, a first strength PPD tuberculin test was noted to be positive. She was discharged on March 9, 1959. She had gained from 98 to 128 pounds.

Comment: This patient first presented a problem in the differential diagnosis of pleural effusion. Roper and Waring have pointed out that in the prechemotherapy era, 65 per cent of patients whose tuberculous infection presented as a pleural effusion subsequently relapsed with pulmonary parenchymal involvement, and 21 per cent relapsed with extrapulmonary disseminated tuberculosis.[13] The frequency of this sequence of events varies from 7 to 65 per cent, but the association is definite.[2] Antituberculous therapy is usually recommended in young patients with idiopathic pleural effusions with protein concentrations exceeding 2.5 Gm. per cent if they have positive tuberculin skin tests.[4] Negative tuberculin skin tests associated with serous tuberculous pleural effusions in patients who are not overwhelmingly ill is unusual. Furcolow and co-workers noted positive skin tests in 99.6 per cent of their patients.[6]

During this patient's admission in April, 1958, for evaluation of pleural effusion, antituberculous chemotherapy and restriction of activity were not advised because of repeated negative tuberculin skin tests.

This patient's delivery of a premature infant may have been the consequence of her pelvic tuberculosis. Patients with genital tuberculosis frequently abort, although they may go to term.[11]

Tuberculosis peritonitis is classically said to be associated with a "doughy" abdomen on physical examination, but the "doughy" abdomen is seen in less than 10 per cent of patients with proven tuberculosis peritonitis.[8] The serous form of tuberculous peritonitis is relatively common, ranging from 22 per cent to 75 per cent of patients in various series.[5, 9] The serous form of tuberculous peritonitis is seen more frequently in females, with a predilection for Negroes, and characteristically presents as ascites of acute onset associated with fever and rigors. Leucocyte counts are normal. In a recent review, four of nine patients with this form of tuberculosis had negative tuberculin skin tests, varying from a few days to several weeks after onset of ascites.[9] Thus, as illustrated in this patient, negative tuberculin skin tests do not definitely exclude tuberculosis as the etiology of idiopathic pleural effusions and are of little assistance in the diagnosis of the ascitic form of tuberculous peritonitis.

CASE 4.—*Tuberculosis manifest by occult gastrointestinal bleeding.*

A 71 year old white male widower, a known heavy drinker who lived alone, was found unresponsive and brought to the hospital on December 2, 1957.

The patient had been well until mid-October, 1957, when he developed generalized weakness, anorexia, and undetermined weight loss. In the first week of November, he developed a cough productive of mucopurulent sputum, noctural dyspnea, and ankle swelling. The patient was told he had "heart trouble," but he refused treatment. In mid-November, he began having 3 to 5 loose bowel movements daily and developed urinary and fecal incontinence.

On admission, he was a cyanotic, filthy, semicomatose, cachectic elderly white male with a temperature of 94 F., respiratory rate of 25/min., and blood pressure of 90/70 mm. of mercury. The lungs contained loud, coarse crepitant rales and rhonchi throughout both lung fields. The abdomen was tense and flat with no masses or tenderness; the liver edge was percussed 3 cm. below the right costal margin. Bilateral pitting edema of the ankles was present.

Laboratory findings included: hemoglobin 10.6 Gm. per cent, leucocyte count 6,200/cu. mm. with 34 per cent segmented and 52 per cent band neutrophils, platelet count 18,000/cu. mm., negative urinalysis, and 4+ positive stool guaiac reaction. Skin tests, including old tuberculin 1:1000, were all negative. Blood chemistries included: CO_2 16.3 mEq/L., BUN 32 mg.%, Cl 100 mg.%, Na 144 mg.% and potassium 5.3 mg.%, calcium 8.3 mg.%, phosphorus 4.8 mg.%, 32% BSP retention, bilirubin 0.7 mg.%, negative thymol flocculation, alkaline phosphatase 5.3 Bodansky units, and prothrombin time 15 seconds. The chest roentgenogram showed a diffuse mottled infiltrate in both lung fields.

Penicillin and tetracycline were administered, the presumptive diagnosis being bacterial pneumonia.

Melena was noted and by the second hospital day, hemoglobin had dropped to 8.3 Gm. per cent, for which 2 units of blood were administered. The bleeding was presumed to be the result of esophageal varices complicating hepatic cirrhosis.

His course progressively worsened, was characterized by increasing azotemia, oliguria, hypotension, respiratory distress, and cyanosis, which necessitated a tracheostomy and continuous respiratory assistance. He died 8 days after admission. Cultures from 2 of 5 gastric washings subsequently grew *M. tuberculosis*. At necropsy, far advanced bilateral pulmonary tuberculosis, extensive tuberculous enterocolitis, and miliary tubercles in the liver and spleen were present.

Comment: Tuberculosis in elderly patients, particularly when disseminated, may mimic many of the more commonly considered degenerative diseases.[18] In this patient, tuberculosis accounted for the pneumonia, gastrointestinal bleeding, and thrombocytopenia.

This patient illustrates an infrequent clinical fea-

ture of tuberculous enterocolitis, gastrointestinal bleeding. Its exact incidence is difficult to determine because little has been written about this symptom. Schwatt mentions that 3 of his 131 patients had blood in stools, but he does not mention how much blood was present.[16] Moderate to severe gastrointestinal bleeding requiring transfusions, as this patient demonstrated, is rare. This is surprising since ulcerative lesions of the mucosa and lesions extending into submucosa are common. Other complications which may be associated with tuberculous enterocolitis include perforation with peritonitis, scarring of bowel wall and adhesions with obstruction, abscess, and fistulae formation.

Summary

Advances in chemotherapy have made the prompt accurate diagnosis of tuberculosis increasingly important. This is particularly true of the disseminated extrapulmonary forms of tuberculosis, many of which respond to appropriate chemotherapy. The patient summaries and comments do not constitute a comprehensive review of any phase of phthisiology, but represent selected problems which the authors have encountered in a general hospital. The summaries illustrate the necessity for considering tuberculosis in a multiplicity of syndromes.

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Drs. Hurst and Sanford, 5323 Harry Hines Blvd., Dallas 35.

Close Shave, Anyone?

The razor's edge is too sharp for your skin, according to results of a study conducted by three Boston physicians. Reporting in *GP*, official magazine of the American Academy of General Practice, the three skin specialists point out that blades remove an average of four to 15 times as many skin tissue cells as electric shavers and cause more than seven times as many complaints of after-shave burning. The study, performed by 249 men and 120 women, indicated that blade shaving not only inflicts new injuries (nicks, cuts, rashes), it also irritates and increases skin disorders such as acne, eczema, and ingrown hairs.

Added the doctors: the user needs a learning period of several days to manipulate an electric shaver efficiently and to gain maximum proficiency requires 2 to 4 weeks.

Symposium on Infections

BACTERIAL ENDOCARDITIS

Experience with a small group of patients with bacterial endocarditis is presented. Morbidity and mortality rates remain high and two possibilities for improvement are suggested.

RALPH TOMPSETT, M.D.

EXPERIENCE GAINED in a small group of patients with bacterial endocarditis illustrates several important aspects of the disease which have been well-documented in larger series, but which are not widely recognized. Certain changes which may be coming about are noted.

The group of cases to be reviewed is made up of 24 cases of bacteriologically proven bacterial endocarditis observed in a 2 year period, with a minimum follow-up period of 1 year. The data obtained will be compared with two previously reported series: a group of 408 cases reported by the British Medical Research Council in the years 1945-49,[1] and second, a series of 172 patients reported by Geraci from the Mayo Clinic,[2] covering the years 1951-57 (Table 1).

Details of the clinical features of these patients will not be given. A review of the histories, however, indicates three features of importance: a large proportion of the cases are in the older age group; the disease is an insidious one and delays in diagnosis are of considerable importance; and the commonly incriminated source of infection (dental) was not a factor in this group.

In the Medical Research Council series, collected in the years 1945-49, ten per cent of patients were over the age of 50. In the Mayo Clinic series collected from 1951 to 1957, of a total of 66 patients in whom the ages are given, 37 or 56 per cent were over the age of 50. In our group of cases, 46 per cent were also over the age of 50. The oldest patient in this series was 76. This, then, is a disease which is not peculiar to the younger age groups as commonly stated and it may be anticipated that nearly half the patients will be over age 50.

From the Rose and Henry A. Weinberger Memorial Laboratory of the Baylor University Medical Center, and from the Department of Medicine of the University of Texas Southwestern Medical School, Dallas. These studies were supported in part by United States Public Health Service Grant E-2041, and by a grant from the Upjohn Company, Kalamazoo, Mich.

TABLE 1.—*Composition of Series.*

Series	Number of Patients	Years
British Medical Research Council	408	1945-49
Mayo Clinic	172	1951-57
Baylor University Medical Center	24	1957-59

Duration of Symptoms

A second factor of importance from the histories of these patients is the duration of symptoms. In both the Medical Research Council's series and the Mayo series, the average duration of symptoms prior to the institution of therapy was 5 months. The average time proved to be exactly the same in this group of patients. Correlation between duration of symptoms and ultimate outcome in the individual case is known to be poor. The first symptom may be that related to a major embolism which causes the death of the patient. Nevertheless, in considering death or ultimate disability due to cardiac failure, protracted infection which is untreated certainly is deleterious in terms of the myocarditis present and in terms of valve destruction. All delay in instituting treatment cannot be prevented by the physician, but in many instances the physician's increased awareness of this disease can prevent unnecessary delays. It is particularly important to recall that the broad spectrum antimicrobial drugs may effectively suppress symptoms of bacterial endocarditis for long periods without curing the infection.

Source of Infection

The third feature of interest in the clinical histories was the source of infection. All patients were questioned carefully about possible portals of entry of the infection, including questions about recent dental work. The mere presence of dental caries was not considered as a source of infection, although obviously this is a possibility which cannot be excluded. Although dental extraction or other dental problems have been considered the most common source of infection in bacterial endocarditis, it was not encountered once in this group of patients (Table 2). In the Medical Research Council series, 48 per cent of the patients had a history of recent dental work. It is tempting to speculate that the difference between this series and the older ones is due to widespread use of prophylactic antimicrobial drugs at the time of tooth extraction. One-quarter of cases in this series gave histories or displayed sources of infection which seemed definite. One case followed cystoscopy, one was associated with furuncles, one occurred after normal delivery, one followed pyelonephritis with renal abscess, and two followed criminal abortions. Causative microorganisms in all of these latter cases were either staphylococci or enterococci.

In our series and in the Mayo Clinic series, only about half of the cases were caused by viridans streptococci (Table 3). This contrasts to previous figures of 70 to 95 per cent of cases caused by this division of streptococci. In our series, enterococci were found in 3 of 24 cases (13 per cent), one of which was a double infection. This compares well with the 16 per cent found in the Mayo Clinic series. Moreover, staphylococci were found in 6 cases (25 per cent), one of which was the case with double infection. As previously noted, we have not included those with negative blood cultures. The frequency with which staphylococci and enterococci were encountered was of particular importance since these microorganisms cause tissue destruction and abscess formation. For this reason it is likely that valve destruction in infections caused by these microorganisms proceeds more rapidly than in infections caused by viridans streptococci. This is a major factor in causing disability in this disease.

TABLE 2.—*Probable Sources of Infection.*

	Present Series	Medical Research Council
None Apparent	75%	38%
Dental	0	48%
Other	25%	14%
Cystoscopy (Enterococcus)		
Furuncles (Staphylococcus)		
Normal Delivery (Staphylococcus)		
Renal Abscess (Staphylococcus)		
Abortions (1. Staphylococcus)		
(2. Staphylococcus and enterococcus)		

TABLE 3.—*Causative Microorganisms.*

	Present Series	Mayo
Viridans streptococci	50%	53%
Unclassified streptococci	8%	
Str. hemolyticus Group A	4%	0.6%
Microaerophilic streptococcus	4%	
Enterococcus	8%	16%
Staphylococcus	21%	16%
Enterococcus and staphylococcus (Double infection)	4%	
Gram negative rods.		6%
Negative blood cultures		8.4%

TABLE 4.—*Penicillin Sensitivity of Isolated Microorganisms.*

	Present Series	Mayo
Microorganisms sensitive to penicillin (1.0 unit per ml. or less)	87%	66%*
Viridans Streptococci		
0.01-0.1 u/ml.	75%	76%
0.2-1.0 u/ml.	25%	21%
Staphylococcus	83%†	54%*
Enterococcus	0	0

*Staphylococci sensitive to less than 5 u/ml.
†Staphylococci sensitive to less than 1 u/ml.

Drug Susceptibility

Data on the penicillin sensitivity of the microorganisms are shown in Table 4. It is apparent from examination of the data that penicillin resistance *per se* does not account for a majority of the problems. In the present series, 87 per cent of cases were infected with microorganisms which were susceptible to penicillin. All of the viridans streptococci fell within this range as did most of the staphylococci. All enterococci were, of course, pencillin resistant. These figures differ slightly from those of the Mayo Clinic. The difference of possible significance was that most cases of staphylococcal endocarditis were due to penicillin-susceptible strains. If our series had been larger, it is possible that our figures would not differ significantly.

A word must be said about the method of drug susceptibility testing in these cases. There are serious deficiencies in the common disc sensitivity tests which are done routinely in most hospitals. There may be several reasons for this, but in many instances the disc sensitivities have proved misleading with the particular microorganisms encountered in bacterial endocarditis. Of special importance in this regard is the penicillin sensitivity of enterococci. A number of examples have been encountered in which the disc sensitivity indicated that enterococci were highly susceptible to penicillin and yet, in the tube sensitivities, these same enterococci proved to be resistant with inhibitory concentrations in the range of 2 to 5 units per cc. of penicillin. In no infection is it more important than in bacterial endocarditis to know precise values for the drug susceptibility of the causative microorganism, and it is essential to test each strain by test tube sensitivity tests.

Therapy

It is almost axiomatic that the basis for successful therapy in bacterial endocarditis still is penicillin. Nevertheless, certain variations in the duration of therapy, in the dosage of the drug, and in the use of additional drugs with penicillin are of interest to review (Table 5).To clarify the basis for our current belief in the therapy of this disease, it is necessary to review the experience with several regimens of therapy which have been tested. In the first place, it was learned early in the trial of penicillin in endocarditis that not only must the daily dosage be adequate but the duration of therapy is also important. This is best illustrated by the first study of the Medical Research Council[1] in which the same total amount of penicillin was used for each case, but in different groups of patients it was given over a period of 5, 10 and 20 days. Five million units given over a period of 5 days produced 17 per cent bacteriologic cures. The same amount of penicillin given

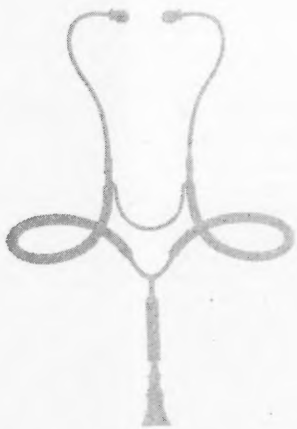

TABLE 5.—*Penicillin Therapy of Bacterial Endocarditis Due to Viridans Streptococci.*

	Regimen	
Medical Research Council Study No. 1	*Total dose* 5 million units	Results Bacteriologic Cures
	1 million daily for 5 days	17%
	500,000 daily for 10 days	50%
	250,000 daily for 20 days	78%
Medical Research Council Study No. 2	*Duration of Therapy 4 weeks.*	
	100,000 daily	"Poor"
	250,000 daily	"Better"
	500,000 daily	80% (71 cases)
	2,000,000 daily	100% (18 cases)
King et al.	10 million daily for 10 days	12% (8 cases)
Hamburger and Stein	15 million daily for 11-14 days	83% (12 cases)

for 10 days produced 50 per cent cures and again the same amount extended over a 20 day period yielded 78 per cent bacteriologic cures. The same group of investigators tried a 4 week regimen in which the daily dosage of penicillin was varied. In these patients it was found that 2 million units of penicillin given daily for 4 weeks yielded 100 per cent bacteriologic cures in 18 cases. This is a small series, and from other data it seems likely that this 4 week regimen yields nearly 90 per cent bacteriologic cures. In contrast with this is the experience of King and his coworkers[5] who gave large doses of penicillin, 10 million units daily for 10 days, and were able to cure only 1 out of 8 cases. Somewhat at variance with this are the results reported by Hamburger and Stein[3] in which 15 million units daily for approximately the same period cured 10 of 12 patients.

In an effort to shorten the duration of therapy, attempts were made to treat these patients with penicillin and streptomycin or dihydrostreptomycin for periods of approximately 2 weeks (Table 6). The rationale for this therapy lay in the results of several studies suggesting that penicillin and streptomycin acting together might have a more truly bactericidal action on viridans streptococci than either drug alone. Indeed, it has been found that more than 90 per cent of bacterial endocarditis cases caused by penicillin sensitive viridans streptococci may achieve bacteriologic cure with 2 weeks' therapy.[4] In many centers now this represents the basic regimen of therapy. In our experience with this regimen previously reported,[7] a total of 35 patients were treated in this manner. Bacteriologic cure was obtained in 32 of 35 patients or approximately 91 per cent. Bacteriologic relapse was observed in three patients, one of whom relapsed twice. Because it seemed to us that this relapse rate was unduly high, we have abandoned 2 week therapy and have attempted to gain experience with a regimen which combines the advantages of both this and the previously tested regimen. It should be mentioned also that other reasons entered into the decision to abandon the 2 week therapy: complete healing requires a long time, apparently a period of several months; associated myocarditis which is slow to heal occurs in significant incidence; and in a number of patients with bacterial endocarditis, clinical signs such as fever and emboli may occur in the third or fourth week after starting treatment. It is well known that these signs do not necessarily indicate failure to control the infection, but when they occur in patients whose therapy has been discontinued after 2 weeks, they are matters for great concern in the individual patient. For these reasons the patients in the present series have been treated for 4 weeks with penicillin, and during the first 2 weeks received streptomycin or dihydrostreptomycin. (It may be mentioned here parenthetically that we have abandoned the use of dihydrostreptomycin in view of the recent reports of deafness following short-term administration of this drug.) In 18 cases bacteriologic cure has been effected in all. This is still too small a series to determine whether the 10 per cent of relapses can be eliminated but the results thus far are encouraging.

It would be advantageous to determine in advance which patients could be successfully treated for 2 weeks and efforts are being made to find such a laboratory procedure. Some investigators now are choosing patients who are to receive 2 weeks of treatment by means of the penicillin sensitivity of the particular strain of microorganism isolated in the

TABLE 6.—*Bacterial Endocarditis: Common Therapeutic Regimens.*

Enterococcus	Per cent bacteriologic cure
Penicillin alone	? (less than 20%)
Penicillin 10 million units daily Streptomycin (or dihydrostreptomycin) (2 Gm. daily) 6 weeks	80% (28 cases)
Penicillin 6 million units daily Streptomycin (or dihydrostreptomycin) (2 Gm. daily) 6 weeks	93% (15 cases)
Penicillin 6 million units daily Streptomycin (or dihydrostreptomycin) (2 Gm. daily) 4 weeks	100% (3 cases)

TABLE 7.—*Short-Term (2 Week) Therapy of Penicillin Sensitive Streptococcal Endocarditis with Penicillin and Dihydrostreptomycin.*

Number of cases	Penicillin Sensitivity of Microorganism	Relapses
27	0.1 unit per ml. or less	4
7	0.2-0.4 units/ml.	0

patient. It has been stated that a suitable method for selecting such cases is to choose those in whom the infective microorganism is inhibited by one-tenth of a unit per ml. or less of penicillin. In our own experience, this method of choice has been unsatisfactory.[7] Twenty-seven patients were treated by this method for 2 weeks with combined therapy of penicillin and dihydrostreptomycin (Table 7). Four relapses occurred in cases thus treated. Of the seven patients in the series who had more resistant organisms, no relapses occurred.

Treatment Failures

Treatment of enterococcal endocarditis presents a special problem. Enterococci are uniformly resistant to penicillin, and treatment with penicillin, even in large doses, is often unsuccessful. The exact cure rate with penicillin alone is difficult to ascertain but is probably less than 20 per cent. In the Mayo Clinic series which utilized penicillin and dihydrostreptomycin for a 6 week period, bacteriologic cure was achieved in 80 per cent of cases. In our own series of 15 cases which completed 6 weeks of therapy, 14 (93 per cent) achieved bacteriologic cure. The one patient considered as a treatment failure probably died as a result of splenic abscess rather than endocarditis. At the present, the same regimen is being employed but because of lack of evidence for the need to continue for 6 weeks, the regimen has been reduced to 4 weeks. Three patients have been treated and bacteriologic cure has been obtained in all.

One of the most difficult problems in antimicrobial therapy of endocarditis today is that of staphylococcal endocarditis. Despite the fact that drug resistance of staphylococci is a problem, this is not the sole problem. Failure to achieve bacteriologic cure in staphylococcal endocarditis due to penicillin sensitive staphylococci is too frequent. Whether vancomycin will prove to be better than penicillin in infections due to penicillin sensitive strains remains to be seen. Certainly vancomycin should be used for penicillin resistant strains. Other antistaphylococcal drugs, including ristocetin and kanamycin may also be valuable but experience with them is limited.

Mention should be made of reactions of penicillin. Two patients in this series gave histories of hypersensitivity to penicillin but in both it was possible to administer penicillin without difficulty. Two other patients developed reactions during therapy. Both had fever, joint pains, and generalized skin eruptions. In both, steroids were given and penicillin O substituted for penicillin G. In one, the reaction was promptly controlled and steroids were withdrawn after a few days without further difficulty. The other patient developed severe exfoliative dermatitis. His symptoms were uncontrolled by the measures mentioned and penicillin was stopped, the remainder of his therapy being completed with bacitracin.

Bacteriologic Cure High

With the exception of staphylococcal endocarditis, bacteriologic cure has been achieved in a high proportion of cases (Table 8). In this series all patients with viridans endocarditis and enterococcal endocarditis achieved bacteriologic cure if they completed the initially prescribed course of therapy. The mortality rate in cases of staphylococcal endocarditis in this series, as in many others, has been high. Additional data, however, indicates that discussion of the results in terms of bacteriologic cure of patients completing therapy may be misleading. Deaths during therapy remain a considerable problem. In our own series, 17 per cent of patients died during therapy as compared with 30 per cent in the Mayo Clinic series which was evaluated at a different time. Half of the patients with staphylococcal endocarditis died prior to the completion of the therapy.

When one considers death and disability within a 6 month period after the beginning of treatment the picture is equally unfavorable (Table 9). Thirty per cent of our cases and the same percentage of the Mayo Clinic series died within 6 months of the institution of therapy. The figure was higher (40 per cent) in the Medical Research Council series. We have also considered as disabled those patients who have persistent hemiplegia or other serious problems such as refractory cardiac failure. This accounts for an additional 14 per cent. A total of 44 per cent of the patients in this series were either dead or disabled within 6 months of the time the diagnosis was established. Some of these are in the group in which penicillin-sensitive streptococci were the infective microorganisms, but the majority of deaths and disability are those due to enterococcal and staphylococcal endocarditis.

TABLE 8.—*Results of Therapy of Bacterial Endocarditis.*

	Present series	Mayo
Bacteriologic cure of patients completing initial course of therapy		
Entire series	91%	77%
Viridans Str.	100%	95%
Enterococcus	100%	80%
Staphylococcus	50%	39%
Death during therapy		
Entire series	17%	30%*
Viridans Str.	12%	20%*
Enterococcus	0	21%*
Staphylococcus	50%	60%*

*During or within 9 weeks after therapy.

TABLE 9.—*Disability and Death in Bacterial Endocarditis.*

	Present Series	Mayo	Medical Research Council
Deaths within 6 months	30%	30%*	40%
Disabled within 6 months	14%		
Six month mortality and morbidity	44%		
Six month mortality by organism			
Penicillin sensitive streptococci	20%	22%	38%
Enterococcus	67%	50%†	
Staphylococcus	67%	60%*	

*Three month period.
†Two year period.

The causes of death and disability are well known: major emboli, refractory cardiac failure, and in a few instances, overwhelming infection. One particular situation seems worthy of special comment. In a significant number of instances it may be found that patients who have no evidence of aortic insufficiency or minimal evidence of aortic insufficiency at the onset of their endocarditis develop frank signs of dynamic aortic insufficiency during the course of their disease. In reviewing a series of 47 autopsied cases of bacterial endocarditis 12 were found in whom perforations of the aortic valve had occurred as a result of the disease.[6] This complication may result in the onset of progressive and intractable cardiac failure. The nature of the perforations in the aortic valve is illustrated in Fig. 1. This patient died of progressive cardiac failure 8 months after bacteriologic cure of enterococcal endocarditis. A large perforation was present in the posterior cusp of the aortic valve. There is little question that the development of dynamic aortic insufficiency during the course of bacterial endocarditis represents an ominous sign. If surgical measures which are applicable to these cases become available, a significant number of patients may be saved.

Summary

A group of 24 patients with bacterial endocarditis recently treated is compared with two large series previously reported. Several points of interest have been noted:

1. Bacterial endocarditis occurs frequently in older individuals, about half of them over 50 years old.

2. The average duration of symptoms prior to the time of diagnosis is established at 5 months, a distressingly long period during which irreversible damage may occur.

Fig. 1. The aortic valve in a patient who died of intractable heart failure following bacteriologic cure of enterococcal endocarditis. The posterior cusp reveals a large central perforation.

3. In the present series not one case appeared to have developed following dental extraction or as a result of obvious periodontal infection.

4. In contrast with many earlier reports, only about half of the cases were due to viridans streptococci.

5. Although drug resistance, particularly of staphylococci, presents a problem, it is clear that in terms of the ultimate welfare of the patient this is not the greatest problem at present.

6. A regimen of therapy currently being tested, which involves the administration of penicillin for 4 weeks with streptomycin for the first 2 weeks has thus far proved entirely satisfactory in this small series of cases.

7. It is suggested that the penicillin sensitivity of the microorganisms does not appear to be an adequate criterion in choosing those patients to be treated only 2 weeks.

8. Although bacteriologic cure can be offered to the majority of patients with the exception of those infected with staphylococci, it is apparent that this does not reflect a true picture of the outcome in these patients. Despite the fact that bacteriologic cure can usually be achieved, morbidity and mortality rates remain high. Although many of the reasons for this may be beyond the physician's control, at least two possibilities are suggested for improvement. The first of these is to attempt to establish a diagnosis as rapidly as possible and, second, hope is expressed that some surgical means may be found to correct the defects in the aortic valve secondary to this infection.

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Dr. Tompsett, 3500 Gaston Ave., Dallas.

Texas TB Report Published

The Governor's Coordinating Committee on Tuberculosis published during February the state's first comprehensive report on tuberculosis control resources in Texas.

Contributing to the factual "no frills" report were the Texas Medical Association, Texas Tuberculosis Association, State Department of Health, Board for Hospitals and Special Schools, Department of Public Welfare, Veterans Administration, and Texas Education Agency.

Titled "TB Control Resources in Texas," the publication already has been distributed to city and county health officers, county judges, county medical societies, tuberculosis hospitals, welfare workers, and others.

Texas doctors on the coordinating committee have included Dr. J. E. Peavy, Dr. C. J. Ruillmann, Dr. Elliott Mendenhall, and the late Dr. J. Edward Johnson.

Symposium on Infections

ORAL PATHOLOGY

In Non-Acute Bacterial Endocarditis

Significance of oral pathology in the genesis and prevention of nonacute bacterial endocarditis is presented. Complete removal of teeth is advocated for patients who experience a second occurrence of Streptococcus viridans endocarditis, and if severe periodontal disease is present, removal is to be considered during the first occurrence.

PAUL K. CONNER, JR., M.D.

JAY P. SANFORD, M.D.

BACTERIAL ENDOCARDITIS is a broad clinical entity with a multiplicity of bacterial etiologies. In the past, bacterial endocarditis was classified according to the natural course of the infection. The course of infection was acute if duration was less than 6 weeks and subacute if greater than 6 weeks.[9] Acute endocarditis is often associated with more virulent microorganisms which may have the propensity to attack normal heart structures. Such organisms include coagulase positive staphylococci, pneumococci, or group A streptococci. In contrast, the subacute varieties are associated with organisms which are considered as relatively nonvirulent and usually require underlying cardiac deformities for implantation. These organisms include *Streptococcus viridans,* enterococci, and coagulase negative staphylococci. With effective antibacterial therapy, classification can no longer be based upon the natural history of the infection. The term "subacute," in the temporal sense, becomes obsolete. This form of bacterial endocarditis, however, remains an important cause of morbidity and mortality in patients with certain types of rheumatic and congenital heart disease. Since pre-existing structural cardiac deformities usually are prerequisites for the development of this nonacute form of bacterial endocarditis, susceptible patients can be detected and measures employed directed at prevention of bacterial endocarditis.

Streptococcus Viridans

Streptococcus viridans, a bacterial species which has not become resistant to penicillin, remains responsible for 65 to 85 per cent of "nonacute" endocarditis.[2] The remaining cases are due predominantly

From the Department of Internal Medicine, the University of Texas Southwestern Medical School, Dallas.

to other streptococci, classified as enterococci. Many of these are group D streptococci such as *Streptococcus fecalis*. The enterococcal infections are increasing, perhaps as a result of their resistance to penicillin. More recently, strains of coagulase negative *Staphylococcus albus* and candida have been reported as causing endocarditis in patients following intracardiac surgical procedures, particularly those in which prosthetic materials have been employed.[6, 13] It could be postulated that infection with these organisms previously has been uncommon, since infection requires greater increases in host susceptibility than afforded by structural cardiac deformities, but it has been demonstrated elsewhere that prostheses, including suture materials, further increase susceptibility. For example, Elek demonstrated that more than one million coagulase positive staphylococci were required to produce a pustule when injected intradermally. In the presence of a suture, the number required to provoke a pustule was in the range of 100 to 1,000.[7]

The major site from which *Streptococcus viridans* may gain access to the circulation is the oral cavity, particularly the teeth and dental sockets (Table 1).[11] Burket and Burn unequivocally demonstrated the potential for bacteremia of dental origin by implanting an identifiable nonpathogenic bacterium *(Serratia marcescens)* about the teeth and subsequently recovering it from the blood following dental extraction.[3] Other studies[8] have revealed that in the presence of gum infection judged at moderate to severe, tooth extraction was associated with a streptococcal bacteremia in 70 to 75 per cent of patients (Table 2).

A close association has been noted between dental extraction and the onset of symptoms of endocarditis (Table 3).[1, 4, 16] In 10 to 16 per cent of the patients with endocarditis, one or more extractions were performed shortly before the appearance of *Streptococcus viridans* endocarditis. Severe surface and apical infections were present in greater than a third of the cases of *Strep. viridans* endocarditis (Table 3). In the presence of severe dental infections, transient bacteremia may occur spontaneously. In Elliott's studies of patients with severe gum disease, blood cultures taken prior to extraction were positive for

TABLE 1.—*Organisms Found on Culture of Infected Root Canals.*[11]

Organism	% of Cases
Staph. albus	54
Strep. viridans	45
Diphtheroid	40
Hemolytic strep.	35
Bacillus subtilis	30
Lactobacillus acidophilus	30
Actinomyces	22
Anaerobic strep.	16
H. influenza	13
Staph. aureus	13
Yeasts	10
Nonhemolytic strep.	8
Pneumococcus	7
Mold	6
N. catarrhalis	6
Lactobacillus bifidus	5
Pseudomonas	2
A. aerogenes	0.6
E. coli	0.6
Corynebacterium diph.	0.6
Kleb. pneumoniae	0.6

Strep. viridans in 12 of 40 patients.[8] In patients without evident gum disease, blood cultures obtained prior to extraction were never positive, although one-third of these patients had transient bacteremia with dental extraction. Round and coworkers demonstrated that bacteremia could be evoked by chewing rock candy.[15] In the presence of dental sepsis, *Strep. viridans* almost always has been the organism responsible for endocarditis.

The importance of oral sepsis is further substantiated by failure to observe *Strep. viridans* endocarditis in edentulous patients,[10] although recently, *Strep. viridans* endocarditis has been reported in an edentulous patient who had no retained root fragments.[12] In this patient, bacteremia was attributed to mucosal ulceration secondary to ill-fitting dentures.

Susceptibility to Bacteremia

The bacteremia associated with dental manipulation is transient and organisms usually are cleared

TABLE 2.—*Streptococcal Bacteremia Following Extraction in 138 Cases.*[8]

	No. Cases	Pos. Cultures 5 min. No.	%	Strep. colony counts (per ml. blood) <1	1-5	6-10	11-15	>15
Severe gum disease Multiple extractions	40	30	75	5	17	2	2	4
Mod. gum disease Multiple extractions	60	42	70	14	21	4	1	2
No evident disease Extraction one or more	38	12	34	3	9	0	0	0

from the bloodstream within 10 minutes.[8, 14] The likelihood of development of endocarditis is partly dependent on the type and number of organisms and the length of time which the cardiac lesion is exposed to circulating bacteremia. Transitory bacteremias associated with dental manipulation rarely are significant in persons with normal hearts. However, streptococcal bacteremia as a consequence of periodontal disease is a hazard to the patient with rheumatic valvular or congenital heart disease. With dental extractions even in an ostensibly clean mouth, bacteremia is relatively frequent and is a hazard to susceptible patients (Table 2).

The concept of antibiotic prophylaxis for patients with structural cardiac lesions who require dental extractions seems sound, but critical assessment of its efficacy has not been possible. Although it has been clearly demonstrated that prophylactic antibiotic therapy may not prevent the development of endocarditis, postextraction bacteremia has been shortened. The logical prophylactic drug is penicillin because it is bactericidal and strains of *Streptococcus viridans* are sensitive to it. To establish a satisfactory blood level, penicillin should be given systemically. The American Heart Association recommends 250,000 units of penicillin by mouth 4 times a day for 2 days prior to, the day of, and 2 days after surgery, supplemented by 600,000 units of aqueous and 600,000 units of procaine penicillin intramuscularly shortly before surgery.[5] Because of the occasional occurrence

TABLE 3.—*Association of Strep. Viridans Endocarditis With Dental Infection and Trauma.*

	No. Cases	Abscessed Teeth	Tooth Extraction
Anderson and Keefer[1]	457	33.5%	9.8%
Seabury[16]	165	42.0%	13.3%
Cates and Christie[4]	187	34.0%	16.0%

of endocarditis despite prophylaxis, penicillin dosage in excess of that recommended by the American Heart Association may be justified. The regimen which we employ consists of the intramuscular injection of 600,000 units of procaine penicillin G twice daily 3 days before, the day of, and 3 days after dental extraction, or if the patient is allergic to penicillin, erythromycin 1 Gm. twice daily for the same duration. Endocarditis may develop even on this regimen. There is no contraindication to multiple extraction, but the extraction should be accomplished with minimal trauma and rocking.

Full Dental Extraction

In view of the significance of oral pathology in the genesis of nonacute bacterial endocarditis, full mouth dental extraction during a second episode of *Strep. viridans* endocarditis or during the first episode in the presence of severe periodontal disease should be strongly considered. Even this view is more conservative than the recommendation of Hobson,

who has written that as long as teeth remain in the jaw, an ever-present danger of recurrent bacteremia exists, so that complete removal of all teeth should be performed in patients with *Strep. viridans* endocarditis.[10] The prevention of *Strep. viridans* bacteremia might prevent almost 80 per cent of cases of bacterial endocarditis.

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Dr. Conner, 4317 Oak Lawn, Dallas.
Dr. Sanford, 5323 Harry Hines Blvd., Dallas 35.

Hospital Use Increase Reported

More than half of all deaths in the United States now occur in hospitals, reflecting the wide use being made of their facilities in the diagnosis and treatment of serious illness, reports the Metropolitan Life Insurance Company. In 1958, the Mountain and Pacific states led the nation with 57 per cent of all deaths in those areas occurring in hospitals; lowest proportion is in the East South Central states, Mississippi, for example, having the lowest figure, 37 per cent.

According to the report, the Health Insurance Council estimates that more than 130,000,000 people in the United States are protected against the cost of hospital care—more than twice the number only 12 years ago.

Symposium on Infections

Therapeutic Dilemma OF STAPHYLOCOCCAL INFECTION

The importance of basing appropriate antistaphylococcal therapy upon careful epidemiologic history is illustrated. Also noted is the difference between hospital-acquired and community-acquired staphylococci.

JOHN P. VINEYARD, JR., M.D.*

JAY P. SANFORD, M.D.

IN ATTEMPTING to use antimicrobial drugs today, one is faced with a dilemma. To be maximally effective, the correct drug or drugs should be administered prior to significant structural damage or irreversible physiological changes. On the other hand, there are few microbiological techniques for early positive diagnosis. This was no problem until approximately 10 years ago, when antimicrobial agents other than sulfonamides, penicillin, and streptomycin became available. Today there are at least 28 available antibiotics with more than 400 dosage forms.[5] An approach to "complete" 1960 antimicrobial therapy is outlined in Table 1. From this outline, it is apparent that the day of complete antimicrobial coverage has passed. Prompt appropriate antimicrobial therapy must be based upon accurate clinical evaluation. This situation holds true for staphylococcal infections. The notoriety which the staphylococcus received in recent years often resulted in failure of considered judgment on appropriate therapy.

Staphylococci can no longer be considered from the therapeutic standpoint as a homogenous group of organisms. Recent studies have emphasized the problem of antibiotic resistant staphylococci; however, this group of staphylococci, appropriately termed nosocomial (hospital-acquired) staphylococci, accounts for only one aspect of staphylococcal disease.

Penicillin-sensitive staphylococci have not become extinct. In the United States penicillin-sensitive

From the Department of Internal Medicine, The University of Texas Southwestern Medical School, Dallas. Presented in part at the Texas Regional Meeting of American College of Physicians, July 16, 1960, Houston.

*Postdoctoral Trainee of National Institute of Allergy and Infectious Diseases (2E-30 [R2]).

TABLE 1.—*Antimicrobial Therapy for Fever of Microbial Origin (1960).*

Clinical Situation	Potential Etiology	"Complete" Antimicrobial Coverage
Febrile Patient (microbial origin)	Viral—"small" viruses	None
	"large" viruses	Tetracycline
	Rickettsial	Tetracycline
	Bacterial—gram positive	Erythromycin
	gram negative	Chloramphenicol
	pseudomonas	Polymyxin B
	tuberculous	INH
	Fungal—Nocardia	Sulfonamide
	Histoplasmosis, blastomycosis	Amphotericin B
	Protozoan—Malaria, amebae	Chloroquine
	toxoplasma	Daraprim
	"worms"	Dithiazanine

staphylococci are more frequently encountered in infections acquired in the community at large than are penicillin-resistant strains. This divergence can be noted in cultures obtained from hospitalized patients and outpatients. Rogers, Nolen, and Fleisher demonstrated that approximately 18 per cent of staphylococcal strains obtained from outpatients are resistant to penicillin *in vitro,* contrasting to 80 per cent from hospitalized patients.[2, 4] The same divergence has been noted between staphylococci obtained from infants under 6 months of age, who are often infected by strains of staphylococci acquired at birth, and children over 6 months of age, who are more often infected by strains acquired from the community (Table 2).[1]

These differences are encountered daily if antibiotic sensitivity tests are correlated with careful epidemiologic history.

Sensitivity studies on the strain of staphylococcus depicted on the left in Fig. 1 (hospital-acquired) are those most emphasized. This strain is resistant to penicillin, streptomycin, tetracycline, and erythromycin. It is sensitive only to chloramphenicol, kanamycin, novobiocin, and vancomycin. In addition, this staphylococcal isolate was sensitive to bacitracin, oleandomycin and ristocetin. This represents a typical nosocomial staphylococcus. The staphylococcus depicted on the right in Fig. 1 is a representative organism isolated from an infection occurring in the community at large and is sensitive to all commonly utilized antibiotic agents, except polymyxin B which has never been effective against staphylococci.

Why subject patients to the discomfort or hazards of bacitracin, chloramphenicol, kanamycin, novobiocin, oleandomycin, ristocetin, or vancomycin therapy if penicillin is appropriate, especially when the more toxic members of this group are bactericidal agents? (Table 3). Penicillin or the combination of penicillin and streptomycin would be valueless against the organism depicted on the left in Fig. 1. When faced with a problem of infection, one must decide whether it is of staphylococcal origin and where the staphylococci were acquired.

Case Reports

The following patient summaries represent selected examples of staphylococcal infections which illustrate the importance of careful consideration of the locale where the staphylococci were acquired.

CASE 1.—A 6½ year old Negro girl, an example of a serious community-acquired infection, was admitted to Texas Children's Hospital complaining of pain in the left leg which had existed for 5 days (Fig. 2). Pain was associated with low-grade fever and initially caused the child to limp. Two days prior to admission she refused to walk.

TABLE 2.—*Antibiotic Susceptibility of Staphylococci Isolated From Children.**

Age	Number of Cultures	% Sensitive to Penicillin	% Resistant to Penicillin
Less than 6 months	437	33.6	66.4
Older than 6 months	580	53.1	46.9

*Data based upon routine disc-type sensitivities performed at Children's Medical Center, Dallas, 1959.

TABLE 3.—*Mode of Action of Anti-Staphylococcal Antibiotic Agents.*

Bactericidal	Bacteriostatic
Penicillin	Tetracycline
Streptomycin	Chloramphenicol
Bacitracin	Erythromycin
Kanamycin	Novobiocin
Ristocetin	Oleandomycin
Vancomycin	

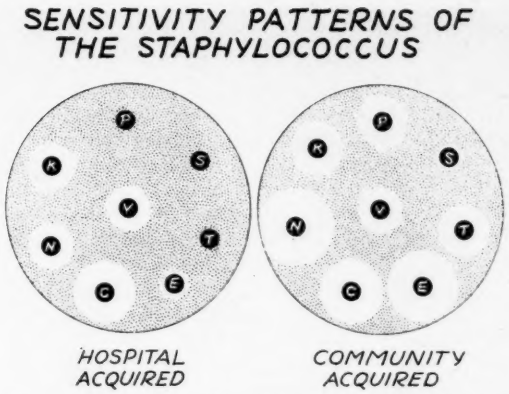


Fig. 1. These are exact reproductions of antibiotic sensitivity determinations performed using standard commercial antibiotic sensitivity discs. The abbreviations used are as follows: P, penicillin; S, streptomycin; T, tetracycline; E, erythromycin; C, chloramphenicol; N, novobiocin; K, kanamycin; V, vancomycin.

There was no antecedent history of trauma.

On physical examination, in addition to fever, she held her leg flexed at the knee and hip, and abducted. There was tenderness in the area of the greater trochanter.

A blood culture grew out four colonies per ml. of coagulase-positive staphylococci. By aspiration of the hip, 15 cc. of brown-yellow thick pus was obtained which showed polys and gram-positive cocci in clusters on bacterial smear. The cultures revealed coagulase-positive staphylococci which were sensitive to 0.312 units/ml. penicillin, 1.25 µg./ml. erythromycin, 1.25 µg./ml. novobiocin, 5 µg./ml. streptomycin, 5 µg./ml. neomycin, 1.25 µg./ml. tetracycline, 5 µg./ml. chloramphenicol and 5 µg./ml. kanamycin. The patient was prescribed chloramphenicol and erythromycin. Five days later these were discontinued and the patient was given intramuscular penicillin, 1.2 million units daily. She became afebrile by the eighth hospital day, but was treated for a total of 21 days. Initially, roentgenograms of the pelvis showed soft tissue swelling over the region of the hip joint but no bony abnormalities. One month later, there was evidence of mottled bony destruction in the region of the proximal metaphyses of the left femur, which was thought to represent osteomyelitis.

This patient represents typical acute hematogenous staphylococcal osteomyelitis, seen in the preantibiotic period and existing today. Staphylococci isolated from such patients usually are sensitive to most antibacterial agents including penicillin, as was the organism isolated in this case. If the patient had had a hemoglobinopathy, the possibility of gram negative organisms such as salmonella or paracolon should have been considered strongly as the etiology for the osteomyelitis.[3]

CASE 2.—The course of a representative postpartum breast abscess is depicted in Fig. 3. This patient underwent an uncomplicated delivery and subsequently nursed her baby. Seven days postpartum, she developed chills, fever, and slight mastitis, whereupon she was given tetracycline. There is little question that most postpartum breast abscesses are caused by staphylococci. This case almost certainly represents a hospital-acquired or nosocomial infection, and chances are less than 20 per cent that tetracycline would cause response. The patient was subsequently pre-

Fig. 2.

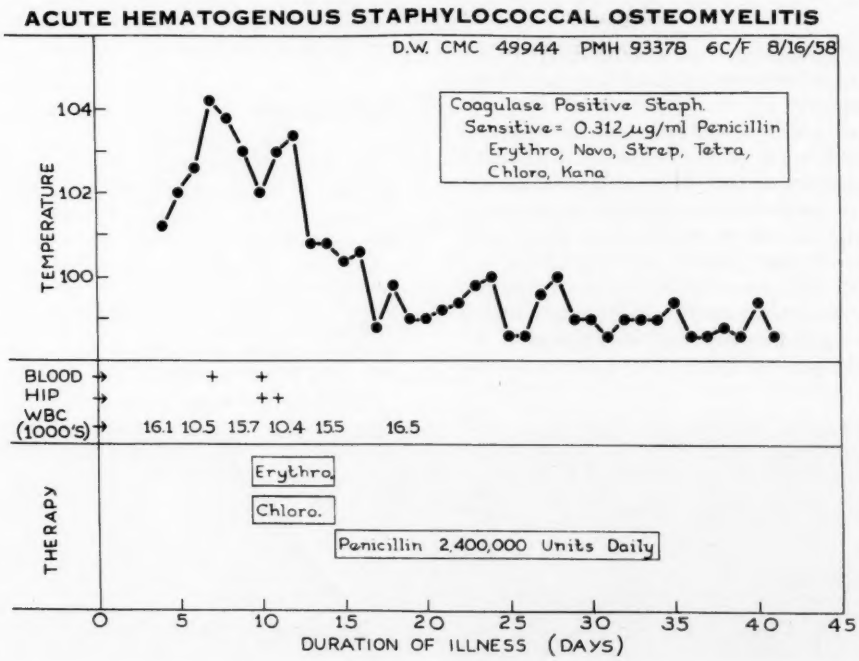


Fig. 3.

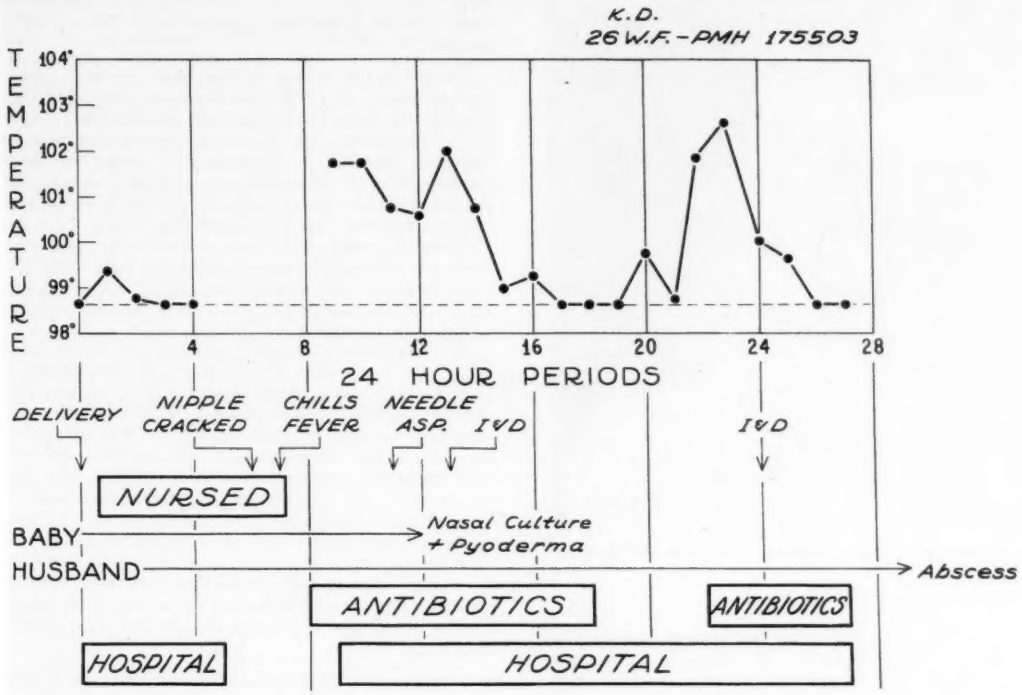
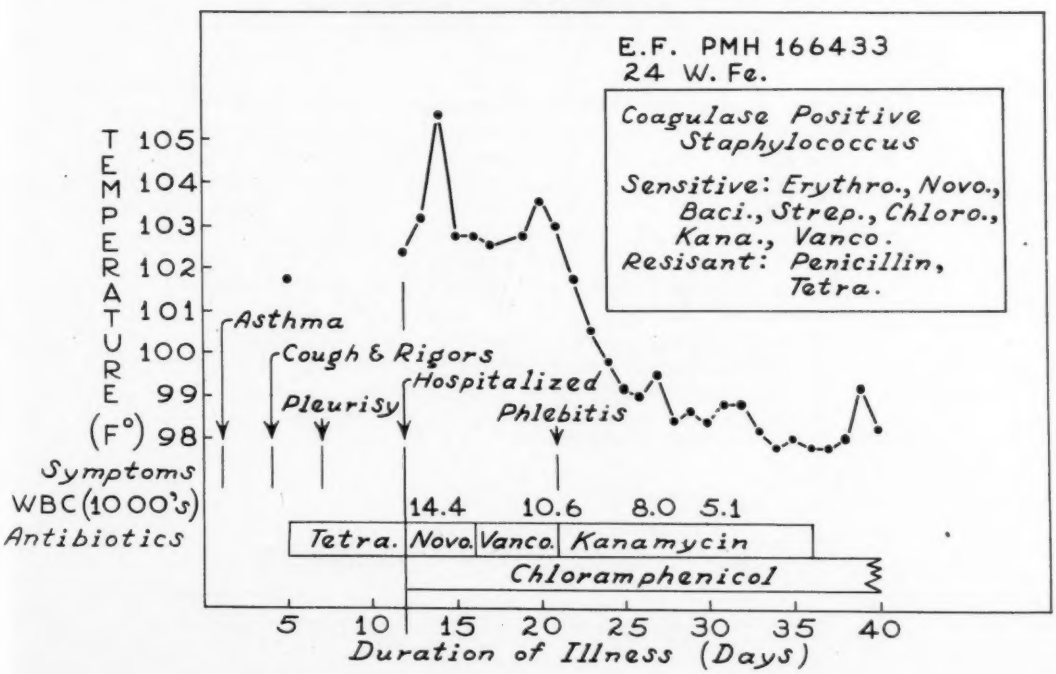


Fig. 4.

Nosocomial Staphylococcal Pneumonia



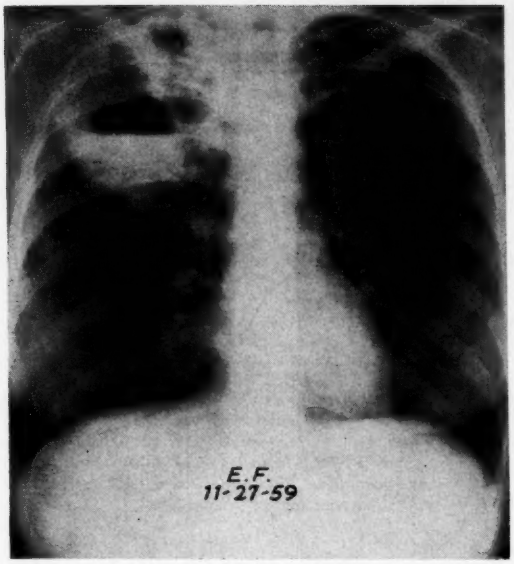


Fig. 5. Roentgenogram showing evidence of definite cavitation.

scribed novobiocin and kanamycin; however, irreversible local changes had occurred and an abscess had developed which required incision and drainage prior to temporary clearing of the lesion. Locculated abscesses must be drained if infection is to subside. This sequence of events might have been avoided if the earliest antibiotic therapy had been effective against the organism responsible for the infection.

CASE 3.—The history of the next patient is not so straightforward. A 24 year old housewife was admitted on October 24, 1959, for a seemingly uncomplicated delivery of her fifth child (Fig. 4). At the time of discharge, the baby was found to be colonized with phage type 80/81 staphylococci. On November 11, almost 3 weeks postpartum, while in another town, she had an acute asthmatic attack, associated with a nonproductive cough. Four days later she developed chills, fever, and malaise. At that time, there was evidence of pneumonitis in the right upper lobe. She was started on therapy with tetracycline. One week later, she was acutely ill and the pneumonitis had progressed.

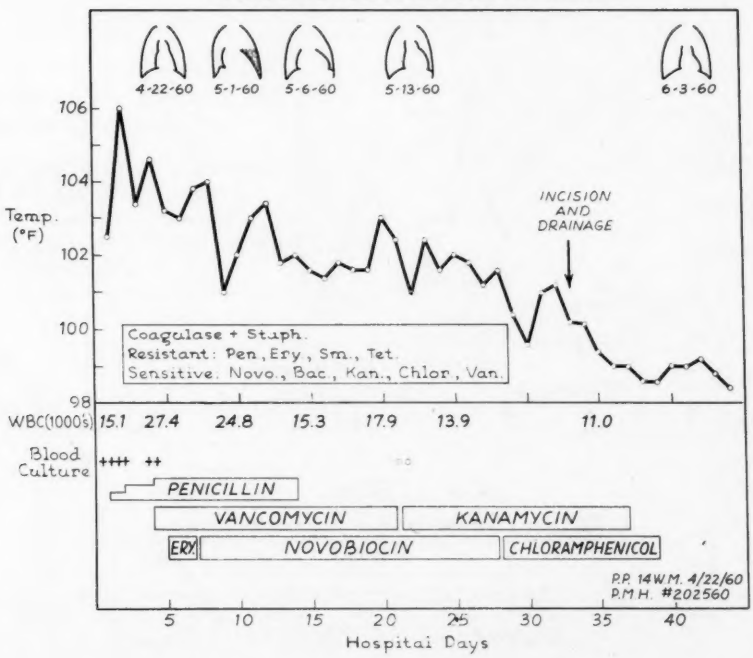
By November 23 there was evidence of definite cavitation (Fig. 5). Sputum smear showed a predominance of gram positive cocci; cultures showed this to be a coagulase-positive staphylococcus of phage type 80/81, resistant to penicillin, streptomycin, and tetracycline. The patient was originally given chloramphenicol and erythromycin; however, because of the gravity of her condition drug therapy was changed to vancomycin. She subsequently was cleared of the infection.

Her case represents a nosocomial staphylococcal infection although the pneumonic symptoms appeared in another community. The episode of asthmatic bronchitis was the precipitating factor which enabled an asymptomatic staphylococcal carrier state to develop into an overt staphylococcal pneumonia.

CASE 4.—A 14 year old boy was admitted with a lesion of the left ankle which appeared to be erysipelas (Fig. 6).

Fig. 6.

ACUTE NON-HOSPITAL ACQUIRED NOSOCOMIAL STAPHYLOCOCCAL BACTEREMIA.



Coagulase-positive staphylococci were isolated from blood cultures obtained at admission. A diagnosis of staphylococcal endocarditis was made when evidence indicated cardiac enlargement. The original history suggested that this was not a nosocomial infection and the patient should have responded to large doses of penicillin. Upon careful history it was found that the boy's sister had been hospitalized for approximately 3 months with extensive body burns which were infected with staphylococci. His sister was discharged shortly before he was admitted, hence the occurrence of organisms resistant to penicillin, erythromycin, streptomycin, and tetracycline. Colonization of this family by his sister's hospital-acquired organism is almost certain. With the addition of appropriate antibacterial therapy, the boy gradually improved although he continued afebrile until evidence of osteomyelitis was noted in the left tibia. This was drained, and pus was sterile on culture. This again demonstrates the importance of drainage of closed lesions, if satisfactory response is to occur.

In summary, appropriate antistaphylococcal therapy must be based upon careful epidemiologic history if patients are not to be undertreated or overtreated. The difference between hospital-acquired and community-acquired staphylococci should not be overlooked.

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◗ Drs. Vineyard and Sanford, 5323 Harry Hines Blvd., Dallas 35.

Insurance Executive Deplores "Mystery"

Robert R. Neal, general manager of the Health Insurance Association of America, urged doctors to remove "the element of mystery" which the public finds in medical charges, when he addressed a regional meeting of the Health Insurance Council in San Francisco recently.

Unless there is removal, he cautioned, "suspicion of fees could grow until, finally, the public demands that lawmaking bodies take action. Medicine has the means to remedy public suspicion and lack of knowledge where medical charges are concerned. One of these is the development and use of relative value schedules. If used, they can give the public some guidance by which to make an informed judgment as to medical costs."

Symposium on Infections

CAT SCRATCH DISEASE

Cause of Erythema Nodosum and Splenomegaly

Evaluation of treatment in cat scratch disease is difficult because of the self-limited course of the disease. Use of antibiotics is inconclusive and surgical removal of nodes is indicated only in cases of chronically draining lymphadenitis.

DAVID L. YOUNG, M.D.

CAT SCRATCH DISEASE is a disease of protean nature characterized by a primary skin lesion and regional lymphadenopathy. In 1932, the name "cat scratch fever" was coined by Foshay while he was studying a group of cases clinically similar to tularemia. The cases were not associated with the development of agglutinins for *Pasteurella tularense,* but were associated with cat scratches.[14] In 1945 Dr. Franklin Hanger, developer of the cephalin flocculation test, developed a primary skin lesion with associated lymphadenopathy as the result of a cat scratch. Pus aspirated from the enlarged lymph node was prepared into a skin testing material. This material gave a positive delayed hypersensitivity reaction in Dr. Hanger, as well as in persons previously studied by Dr. Foshay.[5, 14] Debré was the first to publish a description of the diseases.[7] Since that time, about 600 cases have been described in American and European literature.

Case Report

A 44 year old white housewife was admitted to the oral surgery department of Parkland Memorial Hospital on October 3, 1960, with the diagnosis of acute sialadenitis. Approximately 3 weeks prior to admission, she had noted the onset of a "knot" under the right side of her mandible which over a 2 week period developed into a painful, tender mass 5 cm. in diameter with erythematous and indurated overlying skin. Two weeks prior to admission she noted the onset of shaking chills, fever to 104 F., general malaise, and moderate anorexia. Then, about 1 week prior to admission, an erythematous raised lesion developed over the lateral aspect of her left tibia, just below the knee. Following the onset of this lesion, numerous other erythe-

From the Department of Internal Medicine, the University of Texas Southwestern Medical School, Dallas.

matous, tender nodules developed over the pretibial areas of both legs. Following the onset of the leg lesions, the patient received sulfisoxale for the submandibular swelling.

In 1940, in Arkansas, the patient had an episode of hemoptysis diagnosed as tuberculosis. This was treated with a right phrenic nerve avulsion.

Physical Examination: Temperature was 101 F., pulse 100/min., and blood pressure 110/70 mm. of mercury. Positive findings included a mass, 5 cm. in diameter, in the right submandibular region which was tender, firm, but not fluctuant. The overlying skin was warm, indurated, and erythematous. On the right side of the nose there was a 5 mm. papule with a scaly center and a surrounding erythematous halo. There was a 2 mm. shallow ulcer on the right side of the lower lip. No lymphangitis was present. Dullness and absence of breath sounds were noted at the lower portion of the right lung field as a result of a paralyzed right diaphragm. A firm and moderately tender spleen was palpable three fingerbreadths below the left costal margin. Tender erythematous subcutaneous nodules were present over the pretibial areas of both legs, representing the typical picture of erythema nodosum.

The patient was transferred to the medical service, where the history was obtained that she had "frequently fed the neighbor's cats," although she denied cat scratches. While in the hospital, she developed a rash characterized by papulovesicular lesions over the forehead, cheeks, arms, and upper trunk. She developed erythematous indurations, 5 to 10 mm. in diameter, of the pulps of several fingers which resembled Osler's nodes seen in bacterial endocarditis.

Laboratory Studies: The white blood count was normal throughout the hospital stay. The sedimentation rate was elevated to 103 mm. per hour (Westergren). The following tests revealed normal or negative results: VDRL, lygranum complement fixation, latex fixation, mumps complement fixation, febrile agglutination and LE preparation. The antistreptolysin 0 titer was 150 and no rise in titer was demonstrated. The second strength PPD skin test was positive. The histoplasmin, blastomycin, and coccidioidin skin tests were negative. A skin test using cat scratch disease antigen* gave a positive reaction at 48 hours (20 mm. induration with surrounding erythema).

Course: The patient became afebrile after 7 days in the hospital and her appetite returned to normal. The papulovesicular rash disappeared after 72 hours. The erythema nodosum began to subside after 4 days in the hospital and at the time of discharge on October 14, 1960, it had subsided. At the time of discharge the right submaxillary node was no longer tender, was not fluctuant, and had decreased in size.

Discussion

Cat scratch disease is associated with either a cat scratch or bite, or cat contact in from 52 to 92 per cent of the cases.[5, 18] Of the 16 family epidemics reported, all have been associated with a family cat.

Cat scratch disease has been found in persons ranging from 1 to 70 years of age.[5, 9] It is more common in children and young adults and about one half of the patients have been less than 20 years old. In patients over 45, the disease is found predominantly in women, who more commonly care for the household cat. There is evidence of seasonal variation in the incidence of cat scratch disease, with the period of greatest incidence from September through February,[18] when the family cat is usually inside the house and in closer contact with the family.

The incubation period ranges from 3 to 14 days from the contact to the development of the primary lesion. Lymphadenopathy occurs most commonly from 7 to 28 days following the contact. Prolonged incubation periods have been reported in which the adenopathy developed up to 62 days following contact.

The primary lesion may develop at the site of an abrasion, splinter, or thorn injuries, as well as at the site of cat scratch or bite.[5] A primary lesion is often not demonstrated. The primary skin lesion, when present, may take several forms. Most commonly it is a papule surrounded by a red halo, but it may be represented by a healing scratch or bite. In addition, the primary lesions may be multiple and at times may resemble acneiform lesions or insect bites. At times, a small and previously unnoticed primary lesion may enlarge and become noticeable only with the development of adenopathy or at the time of skin testing. The histopathology of the primary lesion is that of a nonspecific granuloma.

The lymphadenopathy which develops is in the drainage area of the primary skin lesion, and the order of frequency is in the upper extremities, face and neck, and the lower extremities. There is characteristically no lymphangitis associated with the lymphadenopathy. It is unusual to find epitrochlear adenopathy without associated axillary adenopathy. Occasionally the adenopathy develops in unusual locations,[5] such as the suprasternal notch, along the brachial chain of nodes, and under the edge of the pectoral muscles. The nodes may vary from a few centimeters in diameter to the size of large walnuts. They may be either nonpainful or exquisitely tender with an erythematous thickened overlying skin. It is said that the nodes are often more visible than painful and may be noticed first by their size. The adenopathy disappears within 6 weeks in 80 per cent of patients. There have been several instances, however, where the adenopathy lasted up to a year. Approximately one-half of patients develop suppurative nodes. The pus obtained from such nodes is greenish-yellow or gray in color and sterile on bacteriologic culture. Findings commonly heralding suppuration of the nodes are fixation of the node to underlying structures and an associated elevation of the peripheral white blood count. Nodal masses removed surgically usually have been found to consist of a group of small fused nodes rather than a single node. Histopathology of the removed nodes reveals granulomas of three main types: acute caseating, acute necrotizing, and epitheloid granulomata.[9] The acute caseating granulomas are at times indistinguishable from tu-

*Obtained from Dr. S. Edward Sulkin, Chairman of the Department of Microbiology, the University of Texas Southwestern Medical School, Dallas.

berculosis caseating granulomata; however, acid-fast bacilli have never been found in these lesions. The acute necrotizing granulomata are similar to those found in tularemia, lymphogranuloma venereum, and brucellosis. Some authors believe that cat scratch disease may account for some of the cases of tuberculous lymphadenitis described in the past. It should be emphasized that the histologic findings of the nodes of cat scratch disease are suggestive of this disease and not diagnostic.

Systemic Manifestations

Systemic manifestations are present in about 75 per cent of patients and occur after the onset of the lymphadenopathy. They consist of fever with or without shaking chills, malaise, headache, anorexia, and occasionally, abdominal pain. The temperature may be low grade or elevated to the range of 104 F. Systemic manifestations last a few days to 2 weeks or longer.

Less common manifestations which have been noted to occur in association with cat scratch disease include the following:

Skin lesions: A rash is present in 7 to 10 per cent of patients.[14] It may be papular or papulovesicular and at times may be morbilliform or scarlatiniform. Classical erythema nodosum previously has been described in several cases of cat scratch disease.[5, 20] The skin manifestations tend to occur after the onset of the lymphadenopathy and usually persist for 2 to 3 days. They may wax and wane, however, for several weeks.

Encephalopathy: Fifteen cases of encephalopathy have been reported in association with well-documented cases of cat scratch disease.[13, 15] In all instances, the manifestations occurred within 6 weeks following nodal involvement. Symptoms were usually severe and characterized by fever, coma, and convulsions. Nuchal rigidity, muscle weakness, and Babinski signs were present in about one-half of the patients. In only 4 of the 15 reported cases was cerebrospinal fluid pleocytosis noted, and because of this, it has been stressed that the manifestation should be termed encephalopathy rather than encephalitis. All cases of encephalopathy have been self-limited and without residua.

Bone lesions: There have been two cases of osteolytic lesions associated with cat scratch disease.[4] The lesions reported were located in the ileum and the upper portion of the femur. In one patient, the le-

sion was biopsied and found to be a granulomatous inflammation consistent with cat scratch disease. In this patient, the osteolytic lesion was noted to be healing well after a 7 month period. The bone lesion of the second case healed spontaneously in 9 months.

Mesenteric adenitis: There have been several cases of mesenteric adenitis described associated with cat scratch disease. In several of the cases reported, the pathology of the lymph nodes removed at laparotomy revealed granulomatous inflammation consistent with that of cat scratch disease.[16] Some authors have emphasized that mesenteric adenitis commonly seen in the pediatric age group may at times be a manifestation of cat scratch disease.

Splenomegaly: Splenomegaly is said not to occur in patients wth cat scratch disease;[3] however, it occurred in the patient presented at the time that the lymphadenopathy was most prominent and the erythema nodosum was developing. While palpable, the spleen was moderately tender and firm. There was no evidence of a hypersplenic state. The spleen became impalpable after the patient had been in the hospital for several days.

Miscellaneous: There has been one case of thrombocytopenic purpura without splenomegaly associated with cat scratch disease.[2] The thrombocytopenia did not respond to steroid therapy and splenectomy was performed. It was noted that during the course of steroid therapy the lymphadenopathy rapidly subsided. It should be pointed out that this patient had received several medications prior to the onset of thrombocytopenic purpura that could possibly have been the cause of the thrombocytopenia. There have been several cases of cat scratch disease presenting as Parinaud's oculoglandular syndrome.[5, 11]

Laboratory Findings

The white blood cell count is usually normal and when elevated, is usually less than 13,000/cu. mm. The sedimentation rate is elevated in the acute phase. Many authors have noted that the lygranum venereum (LGV) complement fixation titer is elevated in low titer in 20 to 30 per cent of patients with cat scratch disease. This finding has been challenged by Armstrong,[1] who states that the incidence of elevated lygranum venereum complement fixation titers is related merely to the age of the patient. A recent study in New Zealand,[10] where the incidence of positive lygranum venereum complement fixation titers is normally less than 2 per cent, revealed an incidence of 27 per cent positive lygranum complement fixation titers in patients involved in an epidemic of cat scratch disease. This lends support to the significant association of a positive lygranum venereum fixation test with cat scratch disease.

Skin testing with the cat scratch antigen is thought by most authors to give rather specific positive reactions.[5, 6, 17] The specificity will, however, vary with the antigen used. Most large series have found no more than 0 to 5 per cent positive reactions in patients without a history of previous disease. It is agreed by all authors that the antigen should be prepared from draining or aspirated pus rather than from material consisting of macerated nonsuppurative glands. The skin testing material is not commercially available, so that pus aspirated from suppurative glands is of value as the only source of skin testing material. The skin test reaction is of the delayed hypersensitivity type and a positive reaction is characterized by a 5 mm. or greater area of induration with surrounding erythema. Passive transfer of the delayed hypersensitivity has been accomplished by the injection of white blood cells from known positive reactors into previously nonreactive subjects.[19] Such passive transfer has previously been demonstrated with tuberculous and fungal delayed hypersensitivity. In a recent epidemic in Minnesota,[17] various groups were skin tested to find the incidence of positive reactors in that area. In asymptomatic members of families associated with the epidemic, 26.4 per cent gave positive skin tests. In control families in that area, 5.4 per cent had positive skin tests. Of 119 hospitalized children without evidence of cat scratch disease, 5.1 per cent gave positive skin tests. In a group of veterinary medicine students who volunteered for skin tests, 12.5 per cent gave positive skin tests, whereas practicing veterinarians without known cat scratch disease gave 22.7 per cent positive skin tests. It has been noted that practicing veterinarians may give positive skin test reactions to the point of slough, and this was thought to be due to repeated exposure to the cat scratch agent, although they usually give no history of clinical cat scratch disease.

The etiology of cat scratch disease is presumed to be a viral agent, but this has never been well demonstrated. Mollaret has described the transmission of the disease to monkeys, using a preparation of filtered pus from a draining lymph node.[12] Sufficient confirmation of this work, however, is lacking. Recently, a hemagglutination test has been investigated. It has been noted that rabbit erythrocytes will agglutinate when mixed with pus from draining lymph nodes of patients with cat scratch disease.[8] This agglutination is inhibited by serum from patients convalescing from cat scratch disease.

The differential diagnosis of cat scratch disease most commonly includes tularemia, brucellosis, lymphogranuloma venereum, tuberculous and anonymous mycobacterial lymphadenitis, and malignant lymphomas. Cat scratch disease must also be considered in patients demonstrating erythema nodosum, encephalitis, osteolytic lesions, and a host of skin lesions.

Therapy

It is difficult to evaluate treatment in cat scratch disease because of its usually self-limited course. Evidence that sulfonamides and antibiotics produce curative results is inconclusive. Some authors believe that tetracyclines and chloramphenicol may be beneficial. Surgical removal of the nodes is not usually indicated, but has benefited patients with chronically draining lymphadenitis.

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◗ Dr. Young, Department of Internal Medicine, the University of Texas Southwestern Medical School, 5323 Harry Hines Blvd., Dallas 35.

Symposium on Infections

DIARRHEAL DISEASE of Infancy and Childhood

Considered are specific problems in diagnosis and management of diarrheal disease in infancy and childhood. A program of management is outlined for the use of the practicing physician.

JOHN D. NELSON, M.D.*

THE CURRENT VOGUE in writing or teaching about diarrheal disease is to concentrate on specific antibiotic therapy of bacterial diarrhea and on complex intravenous fluid replacement schemes. This, however, is removed from the reality of the practitioner's experience with the disease. Patients with gastroenteritis due to *Salmonella, Shigella,* or enteropathogenic *Escherichia coli* organisms are uncommon in practice and those requiring parenteral fluid therapy form a minute fraction of the total cases seen by the average pediatrician or general practitioner.

Specific problems of diagnosis and management of diarrheal disease in infancy and childhood will be considered in this paper.

Bacterial Origin

How frequently is diarrhea of bacterial origin? A convenient way to approach this question is to consider three age groups and the unique susceptibility or resistance of their gastrointestinal tracts to certain bacteria:

1. Newborn and premature infants.
2. Infants under 2 years of age.
3. Children over 2 years of age.

Nursery infants, especially premature babies, are liable to epidemic diarrheal disease. These epidemics may be caused by pathogenic *E. coli,* coagulase-positive *Staphylococci* or *Salmonellae* and many are of unknown, or presumed viral, origin. Recent evidence suggests that enteroviruses of the enteric cytopathogenic human orphan virus (ECHO) and Coxsackie groups may be a cause of diarrhea of the newborn.[2] The disastrous epidemics of years past in which entire nurseries were wiped out are rarely seen now, probably due to shortened nursery stays and effective antibiotic drugs.

*Instructor of Pediatrics, The University of Texas Southwestern Medical School, Dallas, Texas and Research Fellow, United States Public Health Service, Institute of Allergy and Infectious Diseases.

Abnormal stools are common in the newborn period, but it is the author's experience that most "diarrhea" of the newborn period is related to transitional stools, "breast milk stools," or improper feeding techniques. Isolated cases of diarrheal disease in newborn infants are uncommon but, when they occur are often due to enteropathogenic serotypes of *E. coli*. *Staphylococcal* enteritis usually is attended by severe, bloody diarrhea and the stool culture contains a pure growth of the organism.

The overwhelming majority of cases of diarrhea brought to the doctor's attention are in infancy. Many occur in the nature of epidemics of mild diarrheal disease that sweep through communities. These are of unknown cause—postulated viral etiologies are yet to be proved satisfactorily—and the bulk of the patients are managed adequately by dietary instructions given over the telephone and are never brought under the physician's direct observation.

Of the infants with gastroenteritis seen by their doctor, approximately 5 per cent have disease due to pathogenic *E. coli* and less than 1 per cent have salmonellosis. The incidence of shigellosis shows considerable seasonal variation, occurring most commonly during late summer months, and also shows variation according to the socioeconomic status of the family. We find a 10 per cent yearly incidence of shigellosis in the medically indigent patients. It is infrequent in private patients.

Among infants who have gastroenteritis severe enough to require hospitalization, the proportion of cases due to bacteria increases sharply. With careful bacteriological technique, pathogenic organisms can be recovered from the stool cultures of 30 to 40 per cent of these infants. We have found approximately 20 per cent due to pathogenic *E. coli*, 10 per cent to *Shigella* and 5 per cent to *Salmonella* organisms.[3]

In children beyond infancy, pathogenic *E. coli* can be dismissed for practical purposes as a cause of diarrhea. *Salmonella* infections constitute a fraction of 1 per cent of all cases. Shigellosis again varies by socioeconomic status.

In the previous discussion a limited group of organisms has been considered as the cause of diarrheal disease: *Shigella, Salmonella,* pathogenic *E. coli* and coagulase-positive *Staphylococcus aureus*. It is probable that other organisms, such as Providence and Arizona species, *Clostridia* and others occasionally are capable of producing enteric infections. Amebiasis is not considered here because of its regional occurrence and its unique diagnostic and therapeutic problems.

There are two answers to the question, "How frequently is diarrhea of bacterial origin?": 1. Almost never in mild diarrheal disease, and 2. In one-fourth to one-third of severe cases in infancy.

When should bacterial diarrhea be suspected? Another way of stating this question might be: "When should stool cultures be obtained in cases of diarrhea?" It is the author's belief that a stool culture in every case of diarrheal disease is a waste of the patient's money and of the bacteriologist's time because the majority of mild diarrhea cases are not of bacterial origin. As a general rule it can be stated that there are no specific symptoms or signs differentiating bacterial and nonbacterial diarrheal disease. Exceptions to this rule would be patients with an acute onset of diarrhea, high fever, and convulsions suggesting shigellosis and patients with the typhoid syndrome.

We try to be selective in obtaining stool cultures and on the basis of probabilities use the following criteria in deciding when a stool culture is indicated:

1. All cases of recurrent diarrhea.
2. All cases of severe, bloody, or persistent diarrhea requiring hospitalization.
3. Diarrheal disease of the neonatal period.
4. Cases of suspected typhoid syndrome or contact with a known case of salmonellosis.

If a patient fits into one of these four categories, the changes are relatively high that he may have diarrhea of bacterial origin and, conversely, a patient who does not fulfill one of the above criteria can safely be managed initially without getting a stool culture.

We feel that a culture of the stool is not indicated generally in mild diarrheal disease and in the patient who has known contact with a case of shigellosis. The latter patients almost certainly have the same disease themselves and should be treated accordingly.

When there is not a bacteriology laboratory service available to the physician, diarrheal disease can still be managed satisfactorily in regard to antibiotic therapy by the considerations covered in the next section.

Antibiotic Therapy

When is antibiotic therapy indicated in diarrheal disease? In some areas it is common practice to dispense antibiotic or chemotherapeutic drugs in practically every case of diarrhea. Many proprietary preparations of kaolin, pectin, or activated attapulgite contain neomycin, polymixin B, or streptomycin. These drugs have widespread use and are effective against some intestinal pathogens when given in sufficient dosage. Unfortunately, the concentration of the antibiotics in the proprietary diarrheal mixtures is not high enough to be effective in eliminating the etiologic agent. On the other hand they may suppress bacterial growth on culture media and interfere with making the correct diagnosis. Because these drugs are

not effective as specific therapy the author believes that their use should be avoided completely. Antibiotics, when they are indicated, are best used as separately prescribed drugs in effective therapeutic dosages. If the actions of kaolin or pectin are desired, they can be prescribed in mixtures that do not contain antibiotics. Enthusiasm of drug companies to incorporate antibiotics into most products sometimes makes it difficult to find a simple drug without antibiotics.

Routine administration of antibiotics or sulfa drugs to all patients with diarrhea is undesirable for several reasons:

1. They are unnecessary as specific therapy in the majority of cases.
2. They are an additional expense to the patient.
3. They may interfere with subsequent attempts at diagnosis by culture when an initially mild disease becomes more severe or persistent.
4. They alter the normal flora of the gut and, thus, have the potential of actually prolonging illness if overgrowth of Monilia or similar organisms occurs.
5. It is undesirable to expose a patient to the toxic or allergic effects of a drug of which the usefulness is doubtful.

Ideally, antibiotics would be used as specific therapy when the etiologic agent is demonstrated by culture. With patients who are not severely ill probably little or no harm is done by withholding specific therapy until the bacterial diagnosis is established.

However, there are certain situations in which prompt administration of antibacterial therapy is the wisest course. These include cases of epidemic diarrhea in the nursery, cases of severe or moderately severe diarrhea in a toxic infant, and cases in which the clinical picture strongly suggests shigellosis or typhoid syndrome. In these cases the appropriate diagnostic tests can be obtained and antibacterial therapy started immediately.

When bacteriological service is not available it would seem reasonable to reserve antibiotic therapy for infants with severe, persistent or recurrent diarrheal disease, for infants in the neonatal period, and for patients with a clinical picture strongly suggestive of shigellosis or typhoid syndrome.

Specific antibacterial therapy should be used when the etiologic organism is known and reasonable and judicious use of these drugs should be made when the organism is not known.

Specific Therapy

What are the antibacterial drugs of choice for specific therapy? On the basis of antibiotic sensitivity testing on pathogenic organisms isolated from stool cultures during the past 2 years, we have reached the following conclusions regarding the most useful drugs for specific therapy:

1. *Enteropathogenic E. coli:* Neomycin sulfate suspension 100 mg./kg./day given orally every 4 hours for 7 to 10 days.
2. *Shigella species:* Nonabsorbable sulfa drugs in the dosage appropriate for the particular drug (usually 65-100 mg./kg./day) given orally every 4 hours for 7 days.
3. *Salmonella species:* Chloramphenicol 100 mg./kg./day given every 4-6 hours for 10 days (25-50 mg./kg./day for premature or newborn infants).
4. *Coagulase-positive Staphylococci:* Chloramphenicol or neomycin or according to the antibiotic sensitivity testing.

The reason for preferring neomycin for pathogenic *E. coli* infections is that 99 per cent of the strains we have isolated are sensitive to this drug, whereas approximately 75 per cent are sensitive to chloramphenicol and 40 per cent to tetracycline. Most are resistant to sulfa drugs. The great disadvantage of neomycin is the expense involved in 7 to 10 days of treatment. However, if treatment is not continued for this period, recurrences of diarrhea or development of a carrier state is common. Untreated, this organism tends to cause chronic or recurrent diarrheal disease in infants, thus, the expense involved in treating it certainly is justified.

Treating shigellosis usually involves several members of a family. For this reason sulfa drugs are more economical than neomycin or tetracycline, both of which are usually effective but prohibitively expensive. Some authors feel that antibacterial therapy does not significantly alter the course of shigellosis and may actually increase the percentage of carriers. It is the author's clinical impression that antibacterial therapy shortens the course of the disease, but this belief has not been tested by controlled studies.

Salmonella enteritis is best treated according to the antibiotic sensitivity pattern but, in general, most strains are resistant to tetracycline and sensitive to chloramphenicol. There is evidence to suggest that antibiotic therapy prolongs the duration of the carrier state, especially in infants with this disease.[5]

When therapy is initiated before culture results are available or if a stool culture cannot be obtained, neomycin is the preferred drug since it is effective against most strains of pathogens. Chloramphenicol is the second drug of choice. Tetracycline can be expected to be ineffective in more than half of the cases.

Neomycin suspension is well tolerated by infants but older children sometimes develop gastrointestinal irritation. It is important that the drug be given every 4 hours for maximum effectiveness. If it is given at greater intervals, bacteriological clearing of the stools is delayed. It should be remembered that, although neomycin is a "nonabsorbable" antibiotic, small amounts of the drug are absorbed and the absorption probably is increased in any condition of inflammation of the intestinal mucosa. Therefore, in patients with reduced hepatic or renal function of any cause, the drug should be used with caution.[1]

Management Aims

What are the aims of management? In treating any patient with diarrheal disease, therapy should be directed fundamentally toward prevention: prevention of complication or of prolongation of an otherwise mild illness by injudicious therapy, prevention of the infection's spread to susceptible contacts, and prevention of deficits of fluid and electrolytes in the patient. On the positive side, therapy should be directed at eradication of the cause when possible, at provision of symptomatic relief of the distressing symptoms and at correction of any deficits of fluids and electrolytes that already exist.

The highest mortality in diarrheal disease is found in cases of hypertonic dehydration. This state of high levels of sodium and chloride in the extracellular fluid most often results from well-intentioned attempts to prevent depletion of electrolytes by oral or parenteral administration of salt solutions without providing enough free water. We have seen 3 deaths recently from hypertonic dehydration in infants who had been given saline enemas for treatment of diarrhea. Since stools are hypotonic in their electrolyte composition, relatively more water than electrolyte is lost by this route and also by sweat and insensible fluid loss. Vomiting further aggravates

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Recluse May Be Hazard

Is the aged recluse, so sad in his own respect, also a hazard to the community?

A New York physician, Dr. Frederic D. Zeman, and a Columbia University sociologist, Ruth Granick, think so, according to findings published in the *Journal of Chronic Diseases* recently.

The Joint survey, based on newspaper clippings over a period of 17 years, indicates that the aged recluse, man or woman, is likely to be in the 70's or 80's. He usually lives alone in an ill-kept apartment or house filled with impenetrable clutter which is actually a community fire hazard. He is likely to have too many pet cats or dogs. Often he has substantial funds, and too often these are in the form of cash hoarded around the house and thus an invitation to violence.

Strangely enough, about one-third of aged recluses live with a relative or friend, and the two of them are likely to be more isolated than one recluse living alone, the survey indicates.

Of the 105 individuals studied, 65 per cent died owning fortunes ranging from $30,000 to $5,000,000. Murder, accidents, and starvation were prominent as causes of death.

The two researchers reported that many of the recluses studied showed signs of withdrawal, such as failure to marry early in life. They believe that some recluses may be latent schizophrenics whose disease becomes overt with the onset of senility.

From *Scientific American,* March, 1961, p. 84.

the situation by cutting off fluid intake. Therefore, in directing dietary management, water should always be provided in addition to electrolyte-containing solutions such as boiled skim milk and carbonated beverages. In coastal areas, the water supply may be high in salt content. In this situation distilled water can be used.

Oral fluids should never be withheld from an infant unless parenteral fluids are provided. Dehydration may develop rapidly in the presence of continuing fluid losses.

Intestinal moniliasis as a complication of prolonged antibiotic therapy has already been mentioned. Prevention of spread of infectious diarrhea can be aided by careful hand-washing and sterilization of diapers, bottles, and utensils.

In older children, kaolin, pectin, and, possibly, paregoric may have a place in management by decreasing the frequency of stools. Their action is nonspecific in decreasing the motility of the gut and in absorbing liquid feces into gel-like masses. It is important to remember that they do not cut down significantly on fluid losses. The disadvantage of these drugs is that they may cause one to fail to realize the extent of the fluid losses because of the decreased frequency of stooling. In infants the number of stools is distressing, primarily, to the mother who has to change diapers frequently. The infant is not concerned with the social inconvenience of frequent trips to the commode. The author believes that Kaopectate or paregoric should not be employed in the treatment of diarrheal disease of infants. The course of the disease and response to therapy can be judged more accurately by the frequency and consistency of the stools when these drugs are not used and, most important, the drugs do not diminish the total fluid losses appreciably.

Diarrhea Versus Diarrheal Disease

When is diarrhea not diarrheal disease? The preceding portion of this paper has been written on the assumption that the primary disease is gastroenteritis. Loose stools or vomiting are common in infants as nonspecific manifestations of almost any infectious process. For this reason, gastroenteritis should be mainly a diagnosis by exclusion. Another site of primary infection must always be sought carefully.

Certain noninfectious processes may simulate diarrheal disease. Notable among these are the celiac syndrome, cystic fibrosis of the pancreas, gastrointestinal allergies or food intolerances and the small, loose stools sometimes seen in association with Hirschsprung's disease or fecal impaction. In most of these situations the symptoms are chronic rather than acute and other physical signs and symptoms or laboratory tests direct attention to the proper diagnosis.

Complications

What complications should be anticipated? The important complications of diarrheal disease can be divided into two groups: those related to the intestine itself and those related to fluid and electrolyte imbalance.

Intussusception is uncommon as a complication of gastroenteritis, but should always be suspected if the infant suddenly stops stooling, develops abdominal distention or has currant-jelly stools. An abdominal mass can be palpated in most cases and the intussusception can be demonstrated roentgenographically by barium enema. Starvation diarrhea can develop in patients kept on a restricted diet too long. Secondary bacterial or fungus infection of the intestine should be suspected in diarrhea that fails to improve with good therapy. Perforation of the intestine is extremely uncommon in gastroenteritis but is considered if signs of peritonitis or abscess formation appear.

Because dehydration of clinical significance is rare in the overall consideration of diarrheal disease, it might be considered a complication rather than a basic part of the disease. Metabolic acidosis accompanies the dehydration. Depletion of body fluids may be isotonic, hypotonic, or hypertonic. The physical examination is helpful in differentiating the type of electrolyte disturbance but not absolutely reliable. Generally, the patient with isotonic or hyptonic dehydration is listless, has decreased skin turgor, sunken eyes, and fontanel, and may exhibit signs of peripheral vascular collapse, but the pharyngeal mucosa remains moist.

The patient with hypertonic dehydration is irritable and anxious, tends to maintain skin turgor even in the face of severe dehydration, maintains his peripheral circulation, and has a dry or sticky pharyngeal mucosa. It is important to differentiate these states of dehydration because therapy is different and the prognosis is much more grave in hypertonic states. Infants with hypertonic dehydration may develop convulsions, the origin of which is not clear. It may be related to subarachnoid hemorrhages, cerebral vascular thrombosis or to the low serum calcium seen in about one-half of these infants.

Potassium deficits may be severe, especially in chronic diarrhea. A distended, quiet abdomen should lead one to suspect hypokalemia. The diagnosis can be confirmed by the electrocardiogram or serum potassium determination. Deficiencies of fat soluble vitamins may develop in chronic diarrheal disease.

Suggested Program for Management of Diarrheal Disease

Considering all factors previously discussed and using as a basis experience with diarrheal disease in general practice and in a medical teaching center, an outline of management was devised. A scientific approach is applied to specific therapy and a realistic consideration is made of the diagnostic and therapeutic tools available to the practicing physician. Its main intention is practical usefulness.

A. *Treatment of Mild Diarrheal Disease*

1. *Diagnostic Tests*
   a. None indicated in the usual acute case.
   b. Stool culture in recurrent or persistent diarrhea and in neonatal infants.
   c. Investigation of possibility of another basic disease in chronic diarrhea.

2. *Antibacterial Therapy*
   a. None indicated in the usual acute case.
   b. Neomycin sulfate 50-100 mg./kg./day given every 4 hours orally in premature or newborn infants until culture results available.

3. *Dietary Measures*
   a. Liquid diet the first day with frequent, small feedings of boiled skim milk, carbonated beverages, tea.
   b. Provide water in addition to electrolyte-containing liquids.
   c. Electrolyte supplements such as Lytren used with caution or not at all.
   d. With clinical improvement add bland foods to diet.
   e. Resume normal diet as rapidly as it is tolerated.

4. *Ancillary Measures*
   a. Kaolin-pectin mixtures in older children, if desired.
   b. Paregoric or kaopectate contraindicated in infancy.
   c. Chlorpromazine or related drugs usually not necessary to control vomiting with good dietary management (Use with caution because of frequency of overdosage).

B. *Treatment of Severe Diarrheal Disease*

1. *Diagnostic Tests*
   a. Stool culture in all infants, if service available.
   b. Stool culture in older children only if bacterial cause strongly suspected.
   c. Serum electrolyte determinations, if possible, when hypertonic dehydration suspected.
   d. Blood culture in suspected typhoid syndrome.

2. *Antibacterial Therapy*
   a. Neomycin sulfate suspension 100 mg./kg./day given orally every 4 hours to all infants.
   b. Nonabsorbable sulfa drugs 65-100 mg./kg./day given orally every 4 hours in suspected shigellosis.
   c. Chloramphenicol 100 mg./kg./day given every 4 to 6 hours in suspected salmonellosis.
   d. No antibiotics to children over 2 years of age unless shigellosis or salmonellosis suspected.
   e. Alter antibiotics appropriately when culture results known.

3. *Dietary Measures*
   a. No oral feedings initially (if parenteral fluids given).
   b. Alternate feedings of water and boiled skim milk after 12 to 24 hours.
   c. Bland foods when diarrhea improves.
   d. Resume normal diet as rapidly as tolerated.

4. *Parenteral Fluid Therapy* (Based on the method of Pratt, 1955)[4]
   a. Treat shock with whole blood transfusion (10 cc./kg. body weight) or with rapid infusion of 20-30 cc./kg. of intravenous (I.V.) electrolyte solution such as Ringer's Lactate.
   b. Replace pre-existing fluid and electrolyte deficit
      (1) In hypotonic or isotonic dehydration give 50-80 cc./kg. electrolyte solution, depending on the estimated severity of dehydration, in a 6 to 8 hour period.
      (2) In hypertonic dehydration use a mixture of one-half electrolyte solution and one-half 5 per cent dextrose in water and give over an 8 to 12 hour period.
   c. Thereafter, provide maintenance fluid as 5 per cent dextrose in water.
      (1) For infants under 1 year give 120-180 cc./kg./day.
      (2) For older infants and children give 70-100 cc./kg./day.
      (3) In hypertonic dehydration use a mixture of 1 part electrolyte solution and 2 or 3 parts 5 per cent glucose in water.
   d. In addition, replace estimated continuing fluid and electrolyte losses with electrolyte solution (Generally no more than 20-30 cc./kg./day).
   e. As soon as patient voids, add potassium to parenteral fluids in amount of 2.5-4 mEq. potassium/kg. body weight but no more than 40 mEq/liter of fluid.
   f. Fluid therapy is best given by I.V. route. If hypodermoclysis is used, solution should be isotonic or slightly hypotonic.
   g. Decrease volume of parenteral fluid appropriately after oral intake re-established.

5. *Ancillary Measures*
   a. Vitamins, particulary Vitamin K.
   b. Calcium I.V. for patients with hypertonic dehydration.
   c. Routine measures for treating peripheral vascular collapse, in addition to I.V. fluids or blood transfusion.
   d. Any surgical or hormonal therapy indicated in patient.

Summary

Specific problems of diagnosis of diarrheal disease of infancy and childhood have been reviewed in relation to the broad spectrum of this disease as it is seen by the practicing physician.

Simplified schemes, based on probabilities of occurrence of bacterial diarrhea, have been presented for determining when stool cultures are indicated and when antibacterial drugs should be administered. The drugs of choice for treating specific pathogens are given. Problems of differential diagnosis and complications of treatment and of the basic disease have been considered.

A general outline for management of diarrheal disease is presented.

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♦ Dr. Nelson, 5323 Harry Hines Blvd., Dallas 35.

Eye Surgeon Urges Transplant Legislation

Dr. Ramon Castroviejo of New York City, who has performed nearly 4,000 corneal transplants—said to be more than any other surgeon has done—has urged that "legislation be passed allowing medical science to remove the eyes from any persons when they die." This measure, of course, has as its objective to give sight to the living blind.

While in Dallas for the March meeting of the Dallas Southern Clinical Society's spring meeting, Dr. Castroviejo made the recommendation to a *Dallas Times-Herald* reporter.

England, Russia, and France have legislation allowing the removal of eyes of the deceased without family permission, the physician said.

Corneal transplants are now more than 90 per cent successful and the need for eyes far exceeds the stock, Dr. Castroviejo pointed out.

Within 48 hours after death, he said, the body's eyes have collapsed. "Morticians place a shell under the lids to keep the lids from sinking . . . [The collapsed eye] is of no use to the body, even upon inspection of the deceased by family and friends . . . If medically removed within 24 hours, though, it can provide sight for the living."

Dr. Castroviejo, a native of Spain, began his pioneer experimentation with corneal transplants at the Mayo Clinic about 30 years ago. At that time, only 20 per cent of the operations were successful.

Although there is, as yet, no way to preserve corneas more than 24 hours, Dr. Castroviejo said that research in Washington, D. C., is in "an advanced stage" in attempts to dehydrate and preserve corneas at room temperatures for months at a time.

Symposium on Infections

THE FORGOTTEN OPERATION

Necessity of incision and drainage of pus is emphasized by the authors who fear that the procedure is becoming a "forgotten operation." Cases illustrate the importance of its usage.

RONALD F. GARVEY, M.D.

JAMES M. GARVEY, M.D.

"Ubi pus, ibi evacuo."

This dictum attributed to Paracelsus is as true today, 400 years after his death, as it was 1,000 years before his birth. The necessity for incision and drainage of pus remains one of the cardinal principles of surgery. The lack of employment of incision and drainage has subjected it to the danger of becoming "the forgotten operation." In the scale of interest shown, the lowly "I & D" must be far less appealing to medical personnel than, for example, the newer and more sophisticated cardiovascular procedures. The unfortunate and often futile reliance upon antibiotics, so lifesaving in many forms of infection, can be of little value in the resolution of frank abscess. It is the latter of these two circumstances which led the authors to reemphasize the ancient surgical concept that pus must be sought and evacuated.

Since the advent of chemotherapeutic agents, their use in surgical practice has developed along three lines: prophylaxis, primary therapy, and adjunctive therapy.[3] Their role as prophylactic agents has not been well defined. In the primary therapeutic sense, they are best utilized in such diseases as cellulitis, erysipelas, suppurative arthritis, and acute hematogenous osteomyelitis. In these diseases they may most often be relied upon to be curative. In the adjunctive sense they are an integral part of the therapy but are used primarily in conjunction with surgery. Examples of this type of disease are gas gangrene, acute appendicitis with peritonitis, chronic osteomyelitis, and wound infections. Surgical treatment remains the primary therapy in these diseases and antibiotics remain in a supportive role.

With the discovery of many antibiotics and increasing reliance upon them, the use of operative

From the Department of Surgery of the University of Texas Southwestern Medical School, Dallas.

techniques has been overlooked in the care of seriously ill patients. We hope to show by means of the following case histories how relatively uncomplicated operative procedures have been curative in patients who had been treated with various antibacterial agents, almost to the point where surgical intervention was prohibited. The authors do not wish to imply that the antibacterial and antibiotic agents have not been helpful, but rather to reemphasize the need for careful consideration and timing of surgical intervention. The disease processes to be considered are hematogenous staphylococcal abscesses, septic pulmonary embolism, liver abscess, and an instance of shock presumed to be the consequence of infection with gram negative bacteria.[6]

Case Reports

CASE 1.—*Hematogenous staphylococcal abscess.* A 17 year old colored female with complaints of progressive pain in the left hip, chills, fever, and malaise was admitted for the fifth time. The patient was a known juvenile diabetic who, on July 24, 1960, had been admitted to the Obstetrical Service, 8 months pregnant with rupture of the membranes. The patient developed amnionitis and delivered a viable infant which succumbed. Her episiotomy subsequently became infected with coagulase positive staphylococci. Staphylococci which were sensitive to kanamycin and chloramphenicol were isolated from blood cultures. She was treated with 1 Gm. daily of each of these drugs for 3 weeks. She responded nicely, became afebrile soon after opening the episiotomy and the institution of antibiotics, and was much improved prior to discharge, except for slight pain in the left hip. Roentgenograms of this area had been negative and although acute osteomyelitis was considered the most likely diagnosis, it was not proved. She was discharged from the hospital.

The patient was readmitted on October 5, 1960. Pain in the left hip had recurred and was aggravated when the patient was lying in the recumbent position. For 1 week prior to admission there was progressive increase of pain in the left hip and on the day of admission the patient became extremely lethargic, developed shortness of breath and subjective fever. Physical examination revealed an acutely ill, febrile, colored female with pale mucous membranes. Abdominal examination was negative. The left thigh was held in slight flexion and external rotation, and there was severe pain with any movement of the left hip. She was again found to have mild diabetic acidosis which responded to insulin and intravenous salt solutions. Another pertinent finding was an anemia of 8 Gm., which was iron deficient in type. Numerous blood cultures were negative and therapy with chloramphenicol and kanamycin, 1 Gm. each daily, was reinstituted and again the patient became afebrile on the eighth hospital day. The pain in the hip persisted and by the thirteenth hospital day she had developed extreme pain in the left sacroiliac joint upon extension of the left leg. She would lie in bed with the left hip continually flexed. A left lower quadrant abdominal mass in the vicinity of the psoas muscle became palpable for the first time. A diagnosis of left psoas abscess was made and retroperitoneal drainage was carried out under general anesthesia on the fourteenth hospital day. An abscess containing approximately 200 cc. of pus was found medial to the left psoas muscle with roughened bone being palpable at the base of the abscess. From this abscess coagulase positive staphylococci were cultured which were extremely sensitive to kanamycin and vancomycin and moderately sensitive to chloramphenicol and bacitracin. The patient remained afebrile after this procedure. Kanamycin was discontinued on the third postoperative day and the chloramphenicol was continued for 3 weeks postoperatively in a dose of 2 Gm. daily. Over the next few weeks the diabetes became readily controlled with insulin, the pain in the hip disappeared, the patient was allowed gradual weight bearing, and the drainage from the abscess cavity subsided. She was discharged well on November 23, 1960, to be followed in the outpatient clinic.

This case is thought to represent hematogenous osteomyelitis of the transverse process of a lumbar vertebra (although possibly this originated from the left sacroiliac joint), secondary to septicemia from an infected episiotomy. It is interesting to note that the organism was extremely sensitive to the antibiotics with which she had been treated. On the first admission, she had responded promptly from her septicemia. When placed on the appropriate antibiotics on the second admission she also responded promptly. Although the organism was sensitive and the patient did respond clinically, the abscess continued to develop and surgical drainage was necessary in order to effect a cure. The retroperitoneal drainage was accomplished without contamination. Actively multiplying organisms were found within the abscess although these organisms proved to be sensitive to the antibiotics which she was receiving.

CASE 2.—*Septic Pulmonary Embolism.* A 27 year old colored female was admitted on June 13, 1960, with stress incontinence since her delivery 6 months earlier. On physical examination she had uterine descensus, cystocele, and rectocele. A vaginal hysterectomy and anterior and posterior colporrhaphy were done on June 16, 1960, using general endotracheal anesthesia. The patient was febrile from the time of the operation and had difficulty with retention of urine. Her temperature ranged from 100 to 102 F. until the twelfth postoperative day when an indefinite pelvic mass, thought to be hematoma or abscess, was found. On this occasion the vaginal cuff was opened. This was followed by considerable purulent drainage from the vagina with some improvement in the lower abdominal soreness and pain. She continued to drain copious amounts of foul-smelling purulent material which on culture revealed a heavy growth of *Proteus species.* Antibiotic therapy to this point included sulfisoxazole, 4 Gm. daily from the second postoperative day, chloramphenicol being added on the eighth postoperative day, and kanamycin on the fifteenth postoperative day.

On July 4, 1960, the eighteenth postoperative day, the patient had a shaking chill, spiked a temperature of 104 F., and complained of substernal pain, palpatation, and dyspnea. She was apprehensive, pulse was 140, respirations 50-60 per minute, blood presure 80/40 mm. of mercury. An ECG performed at this time was essentially normal. Arterial blood was drawn and revealed evidence of desaturation. At this time the patient's blood pressure was sustained with metaraminol. The patient became cyanotic and remained so despite intermittent positive pressure breathing with oxygen. The urinary output fell to almost nothing. Within 4 hours of the previously described episode, the liver became palpable two fingerbreadths below the costal margin and the breath sounds in both bases became absent

with wheezing and rales above this area. The patient was digitalized intravenously and seemed to stabilize 9 or 10 hours after the first episode. Everyone agreed that septic pulmonary embolization was occurring from a pelvic abscess and on the same day, under general endotracheal anesthesia, ligation of the inferior vena cava above the ovarian vein and retroperitoneal drainage of a foul-smelling pelvic abscess were done. Blood pressure fell at one point to 70/50 mm. of mercury during the ligation and remained at a level of about 90/60 mm. of mercury during the course of the procedure. This abscess contained approximately 150-200 cc. of foul-smelling pus from which *Proteus mirabilis* was grown. Her blood pressure and pulse immediately stabilized after the operation. Urinary output increased rapidly. The physical findings in the chest cleared rapidly; there was never any marked change on the roentgenogram. Cyanosis was cleared by the following morning and she was not thought to be in respiratory distress. The postoperative antibiotics were procaine penicillin 1.2 million units daily, chloramphenicol 1 Gm. daily, and kanamycin 1 Gm. daily. These were continued until the eighth postoperative day when all but penicillin was discontinued. Penicillin was discontinued on the eleventh postoperative day. The patient's temperature fell slowly to normal over the next 10 days and by the tenth postoperative day she was afebrile and remained so during the course of her hospital stay. The patient showed gradual, steady improvement, pelvic drainage slowly subsided, and the abdominal wound healed primarily. She was discharged well from the hospital on July 23, 1960. She was last seen in follow-up 6 weeks later when she was completely healed and had no complaints.

This patient became desperately ill with a huge pelvic abscess and suppurative pelvic thrombophlebitis under an "antibiotic umbrella." There are those who would argue that surgical intervention in this practically moribund patient was heroic; however, the drainage of the abscess and ligation of the vena cava in the face of septic pulmonary embolism was imperative to her survival. Her dramatic response to these procedures demonstrates how effective surgical intervention and the mechanical measures of drainage and ligation can be in infections of this type.[2] The transabdominal approach for vena caval and bilateral ovarian vein ligation in this instance is preferred.[1]

CASE 3.—*Liver Abscess.* A 42 year old, colored male was admitted on March 20, 1958, with a 2 month history of fever, marked malaise, weakness, occasional nausea and vomiting, and weight loss of 15 pounds. Left lower lobe pneumonia had occurred at the onset of his illness and anemia had developed. His hemoglobin fell to seven Gm. per cent during this period. On physical examination he was a well developed, well nourished, colored male who did not appear acutely ill. The only significant physical finding was a questionable palpable liver, without tenderness, in the right upper quadrant. The patient was febrile on admission and remained so for 3 weeks. Pertinent laboratory data included a hemoglobin of 7.6 Gm. per cent, hematocrit of 30 per cent, white blood count of 27,000/cu. mm., normal serum bilirubin, 12 per cent bromsulphalein retention, and an alkaline phosphatase of 15.3 Bodansky units. Repeated examinations of the stools as well as proctoscopy with scrapings of a suspicious ulcerated area were negative. All skin tests were negative as were febrile agglutinins. The only other significant findings were focal minimal cirrhosis on liver biopsy and a questionable area of diminished uptake of Rose Bengal in the right lobe of the liver. The overall size of the liver on this scan was normal. After work-up and consultation he was believed to have an amebic liver abscess and was started on a course of chloroquine, 1 Gm. a day for 3 days, then 0.5 Gm. daily for 21 days. His temperature fell slowly to normal after 11 days of chloroquine therapy. Repeat liver scan on April 22, 1958, revealed that the liver had decreased in size from 23 to 19 centimeters in diameter and the defect along the right side of the liver had disappeared. These findings were consistent with resolving hepatic abscess and/or improving hepatitis. The patient received a 5 day course of tetracycline therapy at the termination of his hospital stay and, after he had been afebrile for 2 weeks, he was discharged from the hospital much improved.

He was readmitted on August 6, 1958, four months later, with a history that since the previous hospitalization he had run intermittent low-grade fever. He had received a 2 week course of chloroquine in the outpatient clinic during this time, after which he said he felt improved. He was returned to the hospital for further diagnostic studies because of increase of pain and tenderness in his right upper quadrant and some radiation to the right shoulder. The patient had had productive cough and mucopurulent sputum for several weeks prior to admission. During this hospital admission, he was again noted to have a persistent anemia. Repeated purgings with immediate examination of the stool were negative for *Entamoeba histolytica.* Repeat liver scan showed the liver not to be enlarged, however, there was still a negative defect in the pattern along the right superior lateral area which would suggest an abscess still present within the liver. There was again slight elevation of the right diaphragm on roentgenogram. Bromsulphalein retention was 6 per cent, cephalin flocculation and thymol flocculation were negative, alkaline phosphatase was 4.4 Bodansky units. The patient's temperature fell rapidly to normal on the fifth hospital day and he was again discharged to be followed in clinic.

He was readmitted to the hospital on September 5, 1958, for the third occasion with complaints of fever, chest pains, cough, right shoulder pain, and pain in the right upper quadrant for 6 days prior to admission. He had lost 25 pounds since onset of the illness. Physical examination on this occasion revealed a chronically ill, febrile, colored male who was alert and cooperative. Pertinent physical findings again included elevation of the right hemidiaphragm and, on examination of the abdomen, tenderness on pressure in the epigastrium and right upper quadrant. There was tenderness to fist percussion of the right lower costal

cage. The liver could not be palpated but was percussed just below the right costal margin. Pertinent laboratory findings on this admission were hemoglobin of 9.4 Gm., white count 21,000/mm., cephalin flocculation two plus in 48 hours, alkaline phosphatase of 6 and 10 Bodansky units, bromsulphalein retention of 14 per cent, and negative febrile agglutinins. There was an increase in the elevation of the right hemidiaphragm on roentgenogram, and the liver scan on this occasion showed diffuse enlargement of the liver with a large defect along the right lateral aspect which was compatible with hepatic abscess. At this time the diagnosis of liver abscess was apparent. The patient was given emetine, 65 mg. daily, for 7 days, from the sixth to the twelfth hospital day. He became promptly afebrile after initiation of the emetine and this was followed by a course of chloroquine 0.5 Gm. daily, starting on the fourteenth day.

On September 29, 1958, under general endotracheal anesthesia, aspiration of the right upper quadrant revealed pus. A right subcostal incision was made and aspiration of the liver obtained pus. The right lobe of the liver was marsupialized, being sutured to the peritoneum and fascial layers of the abdominal wall. The abscess was opened and 1,500 cc. of purulent material was obtained. Aerobic and anerobic cultures plus numerous smears for organisms and parasites were all negative. The patient had an extremely benign postoperative course, remained afebrile, ate well, and drainage gradually subsided. He was discharged on October 15, 1958, to be followed in clinic 9 months after the onset of his disease. On repeat liver scan on October 24, 1958, the negative defect along the right upper aspect of the liver was no longer present. The liver had decreased in size since the previous examination.

Although the diagnosis was not definitely established, this case was thought to represent an amebic abscess of the liver and antiamebic therapy was considered prompt and adequate. Had surgical drainage been strongly considered earlier, it might have prevented the wasting and prolonged course. The surgical procedures for exploration in and about the liver have been well described,[4, 5] are not technically difficult, and, as demonstrated in this case, can be rewarding and promptly curative.

CASE 4.—*Shock associated with bacteremia due to gram-negative bacilli.* A 60 year old, colored female was admitted for the first time on February 1, 1958, for complaints of chills and fever, cramping abdominal pain, and vomiting for 3 days prior to admission. The patient had been well until 3 days prior to admission when she developed a shaking chill followed by fever. She vomited following the chill and the next morning noted the onset of cramping, midabdominal pain accompanied by anorexia which persisted until admission. The patient became disoriented on the morning of admission and was brought to the hospital for this reason. There was a questionable history of upper respiratory infection 4 days prior to onset of the present illness accompanied by hematuria. On physical examination she was acutely ill, temperature 102 F., pulse 138/min., blood pressure 60/40 mm. of mercury. She was disoriented. The skin turgor was decreased, the peripheral veins were collapsed, the tongue was longitudinally furrowed, the eye balls were soft and sunken and the mucous membranes were moist. These signs indicated a severe extracellular fluid volume deficit. The abdomen was slightly distended and resonant with high-pitched bowel sounds and a 10 cm. round, questionably tender mass was palpable in the left midabdomen extending down into the left lower quadrant. Significant laboratory determinations on admission were a hemoglobin of 11.3 Gm. per cent, white blood count of 3,600/cu. mm. Urine was scanty in amount but contained 3 plus albumin, a trace of acetone, no red cells, and 30-50 white cells per high power field. Bacteria were seen on the smear. The Kline, VDRL, and Wasserman tests were all reactive. The patient was treated with large amounts of balanced salt solution and after blood cultures had been obtained was given antibiotics intravenously. She received 3 liters of Lactate-Ringer's solution after admission with no response in the urine output or in the blood pressure. An intravenous pyelogram (IVP) was attempted, but, because of the persistent shock, no satisfactory films were obtained. Shortly after institution of the therapy the neck veins became distended and intravenous digitalization was added to the management. Six hours after admission the patient had begun to put out a small amount of urine, the hemoglobin had fallen to 7 Gm. per cent, the white blood count was 17,000/cu. mm. with a marked left shift, the mucous membranes had now become dry, and the patient was maniacal. With these findings, it was thought that the patient was in "gram-negative shock." Through a muscle splitting incision under local anesthesia, the mass in the left flank was explored, aspirated, and incised and found to contain approximately 400 cc. of sweet-smelling brownish liquid which was thought to be infected urine. A large hydronephrotic kidney was encountered, Penrose drains were inserted and the patient was returned to the ward. Within 12 hours of the operative procedure, the blood pressure had risen to the level of 110/70 mm. of mercury and urine flow had increased although the patient continued to be disoriented and irrational. During the first 24 postoperative hours the urine output was 2,100 cc. The blood urea nitrogen reached a maximum of 41 mg. per cent on the second postoperative day and then fell promptly to normal. Subsequent cultures of the left hydronephrosis, the urine, and the blood all revealed *Escherichia coli*. The antibiotic management from the time of admission until the second postoperative day when the culture reports were available, consisted of regular penicillin 2.4 million units daily, and intramuscular and intravenous tetracycline, 1.4 Gm. daily. The antibiotic sensitivities revealed the organism to be extremely sensitive to chloramphenicol and streptomycin, only moderately sensitive to tetracycline and neomycin, so the antibiotic management was changed on the second postoperative day to regular penicillin 1.6 million units intramuscularly daily, streptomycin 1 Gm. daily, and chloramphenicol 1 Gm. orally per day. She also received 1 Gm. of chloramphenicol intravenously daily as well as 10 million units of penicillin intravenously daily. The patient did well postoperatively, and had no temperature elevation after the operation. Penicillin was discontinued on the ninth postoperative day and chloramphenicol was discontinued on the sixteenth postoperative day. Subsequent urologic work-up revealed satisfactory function on the right and a large hydronephrotic kidney on the left with probable uretero pelvic obstruction. On the eighteenth hospital day a left nephrectomy was done without incident for a left hydronephrosis with chronic pyelonephritis. She has since been followed in the outpatient clinic and when last seen one year postoperatively was doing well.

This case represents an instance of "gram-negative shock" subsequent to bacteremia due to an *E. coli* infection in a hydronephrotic kidney. The patient's management demonstrates the value of a drainage procedure, in this case nephrostomy, to eliminate the source of the organisms and therefore the con-

tinuous feeding of the blood stream. In retrospect the preoperative management should have included sustenance of the patient's blood pressure with a vasopressor agent in addition to antibiotics and salt solutions. Certainly in instances such as this, one should attempt to locate the source of the organisms and drain it as soon as possible while the usual measures for support of the blood pressure and extracellular volume are carried out. Other common sites of origin of this syndrome in surgical practice are the biliary tree and respiratory tract.

Summary

Each case represents an example of combined therapy with antibiotics and surgery. Neither can be utilized to the exclusion of the other, especially when the accumulation of pus or necrotic tissue can be found. Simple surgical measures are generally available for drainage and are rewarded by prompt improvement. These cases demonstrate how a few of these techniques can be utilized in desperately ill patients with gratifying results.

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Drs. Garvey and Garvey, 5323 Harry Hines Blvd., Dallas 35.

Life Expectancy Of Cancer Patients Longer

Encouraging gains made in the control of cancer tend to be overlooked because of the heavy death toll from the disease, according to statisticians of the Metropolitan Life Insurance Company.

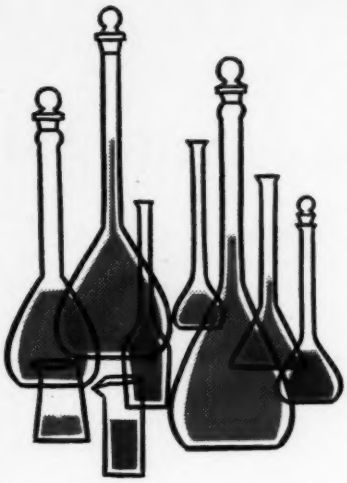
That progress is being made in lengthening the life of such patients is provided by a study sponsored by the National Cancer Institute and concerning the follow-up records of 117,000 patients from 99 hospitals in the United States.

This study shows that for male patients with cancer of the stomach the overall 5-year survival rate was 8 per cent, whereas for those who received treatment at an early stage, it was 30 per cent. For cancer of the esophagus, contrasting records were 2 per cent and 24 per cent; for cancer of the large intestine, 29 per cent and 51 per cent. Among female patients, contrasting percentages among those with ovarian cancer were 24 and 60 per cent. Against a 50 per cent 5-year survival record for patients with breast cancer, 72 per cent of patients who had treatment at an early stage were still alive after 5 years.

MEDICAL NEWS

DRUG NOTES

New Antifungal Antibiotic Effective in Mycotic Infections



AMINOMYCIN (Nepera) a new antifungal antibiotic produced by a strain of *Streptomyces,* recently was isolated in pure form and identified as a member of a distinct group of the heptaene series of polyene antibiotics. The biological data indicate that this antibiotic is effective in various mycotic infections caused by certain strains of *Candida, Cryptococcus neoformans, Histoplasma capsulatum,* and *Sporotrichum schenkii.*

Structure-activity studies indicate that Aminomycin is related closely to two well known antibiotics, Mycostatin (Nystatin, Squibb) and Amphotericin-B (Fungizone, Squibb) of the *New and Non-official Drugs, 1961.* From a chemical standpoint, these antibiotics are complex glycosides. Within the molecule an amino sugar is bound glycosidically by acetal linkage to the polyenic aglycone portion.

Nystatin is one of the first polyene antibiotics available clinically. Chemical data indicate that this pioneer antifungal agent belongs to the tetraene class, the class of polyene compounds containing four alkene linkages within the molecule. When exposed to hydrolytic degradation, Nystatin yields the amino sugar, mycosamine. The chemical structure of the tetraenic aglycone fragment has not been elucidated fully. Nystatin has been employed extensively as a topical antimycotic agent and has proved specifically effective in *Candida albicans* infections. This antibiotic is poorly absorbed from the gastrointestinal tract, and is almost entirely recovered in fecal material after oral administration. Consequently, it has been used extensively in gastrointestinal mycotic infections. Parenteral administration is not considered feasible because of possible toxicity.

Fungizone is another polyene antibiotic that is available commercially. Chemically, it belongs to the heptaene class of polyenes, but it is similar to Nystatin since it yields mycosamine when hydrolyzed. Biological data indicate other correlations between the two antibiotics. Fungizone is not well absorbed from the gastrointestinal tract. Administered parenterally, it is effective and safe, and has therapeutic application in certain systemic infections.

Aminomycin differs chemically in some respects from these other polyenic antibiotics. Although considered a glycoside composed of a carbohydrate moiety and a heptaenic aglycone fragment, it has been reported to possess a different, yet undefined amino sugar. This antibiotic also possesses a unique p-aminophenyl moiety within the molecule, and usually exhibits a higher degree of basicity than the other polyene antibiotics.

As additional data accumulate, more substantial structure-activity relationships may be made among these antibiotics. Most studies on the mechanism of action have been made on the two better known members of the field, Fungizone and Nystatin.

Bradley and co-workers of the University of Minnesota report that although these polyene antibiotics inhibit certain respiration mechanisms and fermentation in *Candida stellatoidea,* energy generation does not seem to be the primary physiologic locus of action. Moreover, protein synthesis and ribonucleic acid synthesis are suppressed only after the yeast cells have been damaged extensively by the antibiotic. In contrast, these researchers observed that *Candida* exposed to Nystatin loses substantial amounts of phosphate-containing substances. This suggests that Nystatin acts upon the permeation system. The hypothesis is supported by the finding that cell free preparations ferment glucose in the presence of sufficient antibiotic to inhibit fermentation by the intact cells. Bradley suggests that the mechanisms of action of the antibiotics studied by his group are similar, inasmuch as resistance to one confers resistance to the others.

—JAIME N. DELGADO, Ph.D., and
LEE F. WORRELL, Ph.D.,
College of Pharmacy, The
University of Texas, Austin.

Depositions Aid Physicians and Patients

Physicians understand the need to be available to testify in court as to the medical facts concerning a particular patient. Most of them realize that medical testimony is necessary in nearly all personal injury litigation if the patient is to recover for injuries. Conversely, however, many doctors do not understand why in many cases it is necessary that in addition to testifying at the trial, they also are required to have a deposition taken, at which time they are subjected to examination and cross-examination on essentially the same facts that will be brought out at the trial.

What is a deposition? A deposition is similar to the actual taking of testimony at a trial. Although it may be taken at any place, normally it will be conducted either at the courthouse or at one of the attorneys' offices. The witness, under oath, is examined and cross-examined by both parties to the litigation. A court reporter records testimony, which is subsequently available to both parties. In some instances the taking of depositions will be agreed upon by the attorneys, and the witness merely will be asked to be available. Often, however, the deposition will be pursuant to a court order made at the request of an attorney. In this latter event, the person required to testify will be subpenaed to appear at a certain time and place to have his deposition taken.

One reason for this procedure is to perpetuate testimony. Once a deposition has been taken, it may be introduced as evidence at the trial in the event that the person who made it has died or is unavailable to testify in person. If the physician's testimony is vital to the contemplated trial, the death of the witness or his absence from the trial probably would be fatal to the patient's suit. However, a deposition can be read into evidence because it was taken while the physician was under oath and both parties have had the opportunity to examine or cross-examine the witness.

A deposition affords the adverse party an opportunity to know the testimony of the physician witness, so that surprise at the time of the trial can be averted. This gives attorneys for the adverse party and the patient sufficient time before the trial to become cognizant of the medical aspects of the case. In addition, the attorney has the opportunity to verify the medical opinions that have been set forth.

A deposition protects against unexpected deviation from previously established facts and opinions. Should the physician during a trial deviate from the facts stated in the deposition, the document helps to refresh his memory. Often a deposition is taken when the facts still are fresh in the physician's mind, whereas a trial might not occur until years later. The deposition discourages a witness from changing his testimony later unless there is a legitimate reason for such change. Any material deviation from the statements made in the deposition at the time of trial tends to cast doubt on the credibility of the witness.

Although the taking of depositions may seem a needless waste of time, it is, nevertheless, as necessary to both parties as is the physician's actual testimony in court.

Electronic Monitors Set Up by VA

Master electronic systems for monitoring the condition of patients in surgery and recovery are being established on a research basis at five Veterans Administration hospitals, Dr. Lyndon E. Lee, Jr., head of research for surgery for the VA, has announced. The hospitals are located in Pittsburgh, Boston, Durham, N. C., Chicago, and Coral Gables, Fla.

Basically adaptations of space medicine instrumentation already proved practical to check on animal passengers in rocket nose cones, the surgical monitors will keep watch over heart and brain activity, pulse, respiration, temperature, blood pressure, and other body conditions, to give doctors early warning of any threatening changes.

Chest Physicians, AMA Set Joint Meeting

The twenty-seventh annual meeting of the American College of Chest Physicians will be held at the Commodore Hotel, New York City, June 22-26.

A joint session with the American Medical Association's Section on Diseases of the Chest will be held at the city Coliseum on the last day of the convention, this being the first joint meeting in the history of the two groups.

The popular Fireside Conferences, also to be a joint project of the two organizations, will be held at the Commodore Hotel the night of June 26.

Texas physicians participating in the program will include: Colonel James H. Hammond, USAF, Austin; Drs. James O. Armstrong, Ernest H. Myers, Milton V. Davis, James W. Finney, Arthur Grollman, William F. Miller, Alfred C. Schram, and Russell H. Wilson, all of Dallas; Dr. George S. McReynolds, Galveston; Drs. Denton A. Cooley, Roger Cooper, Alvis E. Greer, John T. Mallams, and Charles Sammons, all of Houston; Lt. Col. Robert B. Stonehill, USAF, Lackland Air Force Base; Dr. Lawrence M. Shefts, San Antonio; and Drs. Hanes H. Brindley, Robert J. Carabasi, and John J. Christian, Temple.

Temple to Host Therapy Meeting

The Texas Chapter, American Physical Therapy Association, will hold its annual meeting in Temple April 28-30. Slated for the session are scientific programs, exhibits, films, a legislative committee meeting, a special meeting for the self-employed, and a series of social events.

Texas physicians who will be among the speakers, and their topics, include: Dr. H. H. Brindley, Scott and White Clinic, "Symptomatology of the Cervical Region"; Dr. H. A. Schubert, Temple Veterans Administration Center, "The Trends in Medicine"; Dr. R. A. Murray, Scott and White Clinic, "Man's Oldest Complaint"; Dr. R. W. Milam, Scott and White Clinic, "A Modern Interpretation of the Little Principle in the Treatment of Little's Disease"; Dr. E. W. Keil, Temple Medical Arts Clinic, "Geriatrics—Your Problem and Mine"; and Dr. M. R. M. Blashy, Veterans Adminstration Center, Temple, "Creating a Geriatric Hospital Service."

Advance registration may be made with Don Newton, 1917 South 17th Street, Temple, until April 20. Registration fee is $10.

Texas Surgical Society To Meet Next in Waco

The Texas Surgical Society held its spring semi-annual meeting April 2-4 at Dallas' Statler-Hilton Hotel.

Guest speaker was Dr. Earle B. Mahoney, professor of surgery, University of Rochester School of Medicine and Dentistry, and Strong Memorial Hospital, Rochester, N. Y. His topics were "Hypothermia" and "The Replacement of the Esophagus Utilizing the Right Colon."

Scientific papers were presented by Dr. Robert A. Murray, Temple; Dr. Leroy J. Kleinsasser, Dallas; Dr. George W. Waldron, Houston, with Dr. James M. Hampton, Houston, (guest); Dr. Robert S. Sparkman, Dallas; Dr. Albert O. Singleton, Jr., Galveston, with Dr. Henry Martinez, Galveston, (guest); Dr. Elton L. Shelton, Jr., Houston; Dr. George D. Broyles, Jr., Houston; Col. William W. Nichol, San Antonio; Dr. Alvin W. Bronwell, Lubbock, with Dr. Randolph Rutledge, Lubbock, (guest); Dr. Charles D. Bussey, Dallas; Dr. William J. Hills, San Antonio; Dr. E. Stanley Crawford, Houston; Dr. Robert J. Rowe, Dallas; Dr. Dan C. Gill, Dallas; Dr. Dudley Jackson, Jr., San Antonio; and Dr. Robert G. Lemon, Fort Worth.

Banquet speaker was R. J. Patton, supersonic transport program manager of Convair, Fort Worth.

Fall meeting of the society will be at the Roosevelt Hotel, Waco, October 1-3, 1961.

Aerospace Meet To Be in Chicago

The Aerospace Medical Association will hold its thirty-second annual meeting April 24-27 at the Palmer House, Chicago. Slated for presentation are more than 180 research and clinical reports from leading scientists in the field of aviation and aerospace medicine. Presiding will be Dr. G. J. Kidera, Chicago, president. Program copies are available from the Aerospace Medical Association headquarters, Washington National Airport, Washington 1, D. C.

Goiter Group Meets May 4-6

The American Goiter Association, Inc., will meet at the Warwick Hotel in Philadelphia May 4-6 for a scientific program and business session. Presiding will be Dr. Alexander Albert of Rochester, Minn., president.

Rehabilitation Center Annual Meeting May 5

Members and directors of the Texas Rehabilitation Center of Gonzales Warm Springs Foundation will hold their annual business meeting at the Center on Sunday, May 7. Members, who can elect the Foundation's directors are individuals who, during the 12 months prior to May 7, have contributed $25 or more to the Center's program.

The Center is a private, nonprofit rehabilitation center chartered by the state of Texas. It accepts both paying and nonpaying patients. To be admitted as an inpatient, a person must have been referred by a physician and his condition must be deemed improvable. Surgery is not performed at the Center. Physicians may send prescriptions to be filled by the TRC Brace Shop, rated as one of the best in the nation.

President is Edward Badouh, New Braunfels attorney; H. P. Orts, San Antonio home builder, serves as chairman of the board.

Occupational Therapists Meet May 11-13 in Houston

The Texas Occupational Therapy Association is holding its annual conference in Houston's Shamrock Hilton Hotel May 11-13, when opening day events will include an Executive Committee meeting and a meeting of the Student Affiliation Committee.

A tour of the Houston Medical Center is slated for delegates Friday morning, with a series of scientific papers scheduled for presentation Friday afternoon and Saturday morning. Saturday activities will include legal and public relations talks, a business meeting and committee sessions, and several social events, including a style show-luncheon at the Doctors' Club.

Texas physicians participating in the program include Dr. Lewis A. Leavitt, Dr. John Kinross-Wright, Dr. Moody C. Bettis, Dr. James R. Oates, Dr. Paul R. Harrington, and Dr. Frederick G. Dorsey. Philip Overton, general counsel for the Texas Hospital Association and the Texas Medical Association, will be among the speakers. President of the Texas Occupational Therapy Association is Miss Louise McMillen, OTR.

Attention: General Practitioners and Internists

Applications for charter membership in the American Society of Diagnostic Radiology are being received at this time. Membership is open to general practitioners and internists who do or may desire to do some types of diagnostic radiology in their offices.

For further information, those interested may write to Dr. Louis Shattuck Baer, 411 Primrose Road, Burlingame, Calif.

State Health Workshops Set in April, May

Three State Health Department workshops are being held in April and May. Applications for the first two (Bacteriology and Mycology, April 17-22) and (Virology, April 24-26) are being accepted by Dr. J. V. Irons, director of laboratories, 1100 West 49th Street, Austin.

A laboratory assistants workshop to be held May 11-13 in Austin is jointly sponsored by the State Health Department and the Austin State Hospital. Applications should be made to Dr. Sam Hoerster, superintendent, Austin State Hospital.

EDUCATION

Postgraduate Courses

Pediatric Allergy, El Paso, May 21.—Further information may be obtained from the Office of the Dean, University of Texas Postgraduate School of Medicine, Texas Medical Center, Houston 25.

Physical Medicine and Rehabilitation for the Clinician, Denver, May 31, June 1-3.—This course is sponsored by the Department of Physical Medicine and Rehabilitation, University of Colorado Medical Center. Chief topics will be geriatrics and disabilities of the back and neck, total care of the patient being stressed as well as the basic techniques of therapy. The course is acceptable for Category I credit by the American Academy of General Practice. Tuition fee: $35. Dr. Ruth Jackson, Dallas, will be among guest speakers. Immediately preceding the course, the annual meeting of the Midwestern Section, American Congress of Physical Medicine and Rehabilitation, will be held. Queries may be directed to: Office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 East Ninth Avenue, Denver 20.

Eleventh Annual Colorado Intern-Resident Clinics, Denver, May 18-19.—This course is sponsored by the University of Colorado Medical Center. For further information and a detailed program, the reader should write to the Office of Postgraduate Medical Education at the Center, 4200 East Ninth Avenue, Denver 20, Colo.

Tuberculosis and Other Pulmonary Diseases, Saranac Lake, N. Y., June 5-23.—The Trudeau School of Tuberculosis and Other Pulmonary Diseases, which will hold its forty-sixth session in June, provides a unique opportunity for training in the field of chest

diseases. The annual postgraduate course for physicians is supported by the Hyde Foundation. Faculty includes some 30 doctors from Saranac Lake, Ray Brook State Tuberculosis Hospital, and Sunmount VA Hospital, plus 30 other leading teachers and investigators from the eastern United States and Canada. Approximately half of the time is devoted to tuberculosis, the other half divided between such subjects as silicosis, pulmonary fibrosis, emphysema, fungus infection, sarcoidosis, pneumonias, and intrathoracic tumors. Applications should be made early as enrollment is limited. A few scholarships are available. Tuition for 3 weeks session: $100. Inquiries should be addressed to the Secretary, Trudeau School, Box 670, Saranac Lake, N. Y.

Environmental Health, New York City.—Postdoctoral specialization in environmental health is now being offered by the Institute of Industrial Medicine, New York University Medical Center, under a United States Public Health Service training grant. The program is designed to prepare persons with doctoral degrees in medicine, the medical sciences, or one of the basic sciences for research and teaching careers in this field. Fields of special interest include aerosol physics, physiology, environmental cancer, industrial toxicology, air pollution, radiological health, and radiation biology. Laboratory, epidemiological, and clinical studies will be involved. Training periods are expected to be of from 1 to 3 years' duration. Stipends are available and will vary with individual circumstances. Application is invited. Backgrounds particularly suitable would include physiology, pharmacology, engineering, chemistry, biochemistry, physics, statistics, epidemiology, and medicine. Inquiries should be directed to Professor Norton Nelson, chairman, Institute of Industrial Medicine, New York University Medical Center, 550 First Avenue, New York 16, N. Y.

Alcoholic Studies, Austin, July 16-19.—Designed for social workers, clergy, educators, physicians, nurses, correctional officials, and civic leaders, this annual institute will present information on the nature, treatment, and prevention of alcoholism. A prospectus may be obtained from the Texas Commission on Alcoholism, State Office Building, Austin.

Reconstructive Surgery of the Nasal Septum and External Pyramid, Jerusalem, Israel, August 6-17.—This international postgraduate course will be presented by 25 American specialists in nasal surgery. Dr. Maurice H. Cottle, Chicago Medical School, will direct the course, which is under the auspices of the Department of Otorhinolaryngology, Mayer de Rothschild Hadassah University Hospital and the Hebrew University-Hadassah Medical School of Jerusalem, in cooperation with the American Rhinologic Society. Lectures and demonstrations will be in English. Contributions have made it possible to offer many tuition scholarships. Complete information can be obtained by writing Dr. Robert M. Hansen, Secretary, American Rhinologic Society, 2210 Lloyd Center, Portland 12, Ore.

Pedriatics, Estes Park, Colo., August 21-25.—This five day course is designed for the practicing pediatrician; emphasis will be on newer developments in pediatrics and related fields. Child guidance, pediatric hematology, endocrinology, neurology, cardiology, allergy, metabolic diseases, gastroenterology, antibiotic therapy, virus infections, genetic disorders, problems of the premature and newborn infant, and other subjects will be discussed. Tuition fee will be $60 for the entire course or $35 for any three consecutive days. Registration fee will be $10. The guest faculty will include Dr. Henry L. Barnett, New York; Dr. Reginald S. Lourie, Washington, D. C.; and Dr. A. Ashley Weech, Cincinnati. Staff members of the University of Colorado School of Medicine also will participate. A detailed final program will be available in May. Further information may be obtained by writing the University of Colorado Medical Center, Office of Postgraduate Medical Education, 4200 East Ninth Avenue, Denver 20.

Baylor Student Wins Foreign Fellowship

A Texas medical student—Marshall D. Matthews, junior at the Baylor University College of Medicine—is one of 30 junior and senior medical students from across the nation who have been named winners of foreign fellowships made possible by a $180,000 grant from Smith Kline & French Laboratories and administered by the Association of American Medical Colleges.

A native of Edina, Minn., Matthews has received a $1,483.05 grant to spend 10 weeks at Memorial Hospital, Banda, Republic of Congo.

The 1961 awardees will travel to such places as Pakistan, Korea, Japan, Burma, Haiti, New Hebrides, India, Thailand, Cambodia, Ghana, Republic of Congo, Tanganyika, and other African countries, to work in mission hospitals and outpost medical facilities while studying and combating diseases not commonly seen in the United States.

Fellows are chosen by a selection committee of the Association of American Medical Colleges, comprised of six top-ranking medical educators. Amount of each award is determined according to individual expense and need; in some cases a professionally-trained spouse (usually a husband or wife who is also a medical student) is sent along with expenses paid.

Mental Health Grants Available to Texans

Miss Mildred Burg, chief psychiatric social worker at the Austin Community Guidance Center, has received a $390 in-service training grant from the Southern Regional Education Board under its program in mental health training and research. She will observe programs of consultation with various caretakers of children at the Harvard University School of Public Health, Boston, and the Quincy Child Guidance Clinic, Quincy, Mass.

Individual grants up to $500 are available to any employee of a mental health outpatient clinic, mental health center, state commission or division of mental health in any of the 15 states supporting the SREB program. A $76,000 grant from the National Institute of Mental Health supports the program.

Applications for grants are now being accepted. There is no deadline for applications, since they are acted upon as received. Those interested should write to Southern Regional Education Board, 130 Sixth Street, N.W., Atlanta 13, Ga.

Health Institutes Grants Announced

The National Institutes of Health, the Public Health Service research center at Bethesda, Md., has reported that 1159 research grants and 775 fellowships totaling $25,606,853 were awarded during January. New research grants went to 243 institutions in 42 states, the District of Columbia, Puerto Rico, the Virgin Islands, and three foreign countries. New fellowships were awarded to 654 U. S. scientists and two from India for study in 98 institutions in 35 states, the District of Columbia, and seven foreign countries.

Obstetrics, Gynecology Exams

Applications for certification in the American Board of Obstetrics and Gynecology, new and reopened, Part I, and requests for re-examination in Part II, are now being accepted. Deadline date for receipt of applications is August 1, 1961, but all candidates are urged to make applications at the earliest possible date.

Candidates should write to the office of the Secretary, Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6, Ohio, for a current bulletin to be well-informed of present requirements. Application fee ($35), photographs, and lists of hospital admissions must accompany all applications.

After July 1, 1962, the Board will require a minimum of three years of approved progressive residency training to fulfill the requirements for admission to examination. After the above date, training by preceptorship will no longer be acceptable.

Diplomates of this Board are requested to notify the office of the secretary as soon as possible of changes in address.

25 Young Scientists Named Markle Scholars

Twenty-five young medical scientists—none from Texas—who are faculty members of medical schools in the United States and Canada, have been appointed Markle Scholars in Medical Science by the John and Mary R. Markle Foundation of New York. (For the first time since 1948, when these annual appointments were begun, a woman physician has been selected. She is Dr. Mary Ellen Avery, assistant professor of pediatrics at Johns Hopkins University School of Medicine.)

The purpose of the program is to help relieve the faculty shortage in medical schools by giving young teachers and investigators academic security and financial assistance early in their careers. Appropriations totaling $750,000 have been made to the 25 schools where scholars whose grants begin July 1, 1961, will work. Each school will receive $30,000, at the rate of $6,000 a year for the next 5 years, toward support of the scholar and his research.

To date, over 300 teachers and investigators in 78 medical schools have been assisted by the program through appropriations of over $9,000,000. The foundation was established in 1927 by the late John Markle, a Pennsylvania coal operator, "to promote the advancement and diffusion of knowledge . . . and the general good of mankind."

Public Health Grants Available

The U. S. Public Health Service is now accepting applications for graduate training in public health for the 1961-62 academic year. Awards provide stipends for living expenses of the trainees in addition to tuition and fees. Information and application forms may be obtained from the Division of Community Health Practice, Public Health Service, Washington 25, D.C.

AAMC Starts New Foreign Division

The Association of American Medical Colleges is establishing a Division of International Medical Education with funds provided by the Rockefeller Foundation (a grant of $250,000 over a 5 year period).

The Division will endeavor to promote interest in international cooperation in medical education; develop a coordinated plan to assist various agencies in the recruitment of American faculty for service abroad; assist overseas faculty to locate, on a protem basis, in this country; contribute what it can to improved educational opportunities for foreign graduates seeking advanced clinical and research training in the United States; and conduct forums for the exchange and discussion of information and ideas. The staff chosen to direct the Division will be cognizant of the particular needs of the individual countries seeking U. S. help.

OF GENERAL INTEREST

Use of Blood Derivatives In Texas Reported

Texas residents have received blood derivatives valued at $124,372 during the past year through the American National Red Cross.

Some 43,330 units of gamma globulin, widely used in prevention and modification of measles and hepatitis, as well as in treating cases of gamma globulin deficiencies, were allocated in Texas during 1960. Serum albumin—101 units of 100 cc. each—was distributed to Texas hospitals for emergency treatment for shock, burns, and in replacing lost proteins in the blood as result of kidney and liver diseases. Supplied to hospitals at their specific request is a third derivative, fibrinogen, used to control bleeding following childbirth; Texas distribution in 1960 totaled 24 units at an estimated commercial value of $1,680.

Fourth and newest discovery in blood fractionation research is vaccinia immune globulin, known simply as V.I.G. This derivative was prepared to combat the rare instances in which a strange reaction from smallpox vaccination endangers sight and occasionally life. At the present time, the Red Cross, in cooperation with the armed forces, is the only North American source for V.I.G. Limited quantities are available to doctors at 15 Red Cross regional blood centers.

Color Film Depicts Disturbed Child's Plight

The plight of the mentally-disturbed child in Texas is pointed up in a new 12-minute full color movie, "Christina's Doll," recently produced by the Junior Leagues of the state.

Made at a cost of $15,000 (donated by the Roche Laboratories, medical supply house), the film portrays findings of Junior League groups in a 12-city survey over a 4 year period.

According to this survey, the hundreds of seriously disturbed children in Texas, some of whom need 24-hour-a-day psychiatric care, have only three places to go. These are private clinics in Dallas, Austin, and Victoria, all designed for adults. In 1959, approximately 60 Texas children younger than 14 were admitted to state mental hospitals. Further, only the larger cities have the guidance and counseling services which may help a mentally-ill child if changes in him are noted quickly enough.

"Christina's Doll" is being made available for showing before Texas groups and organizations, without charge. Persons interested should write or call Mrs. Herbert N. Denton, Jr., state chairman of the Junior League Public Affairs Study Committee, 4900 Houston Drive, Galveston.

Also available is a leaflet prepared by Bert Kruger Smith of the Hogg Foundation for Mental Health. Off the press shortly will be a pamphlet, also written by her, "Children of the Night." Information about these is available from the Hogg Foundation for Mental Health, University of Texas, Austin.

Kennedy Establishes Child Health Center

President John F. Kennedy has issued a directive establishing a Child Health Center within the U. S. Public Health Service, a move designed to bring together the various elements concerned with children's health of several different agencies and to direct those efforts specifically toward the problems of child health.

In announcing the establishment of the new center, the President pointed to the annual birth of 400,000 babies with congenital malformations. Also, he said, "Since 1950 the U. S. has slipped from sixth to 10th place in the rate of infant deaths . . . The Public Health Service estimates that three of every 100 children born are mentally retarded. This is 126,000 mentally retarded children born each year."

Watch Your Language, Doctor!

Muddy language causes trouble.

For doctors, that is.

So says Dr. Henry G. Moehring, practicing radiologist of Pomona, Calif., who addressed the Texas Radiological Society on that subject in Fort Worth recently.

One of the biggest pitfalls in communication for doctors is use of superfluous words, he pointed out, giving the following examples of *do's* and *don'ts* which should be remembered by the physician who writes or makes public addresses.

DO'S

Say "severe," not "severe in nature."
Say "round," not "round in shape."
Say "complex," not "complex in character."
Say "red," not "red in color."
Say "sideways," not "in a lateral direction."
Say "changes," not "undergoes transformation."
Say "front," not "anterior aspect."

DON'TS

Stay away from the passive voice. Instead of "The patient was operated on and stones were found in the gallbladder," say "We operated on the patient and found gallstones."

Look out for metaphors. Consider this unintelligible example: "The violent explosion paved the way for a new growth."

Be cautious of "ing" endings and misplaced modifiers. Don't be guilty, Dr. Moehring said, of such a sentence as this: "The significance of skeletal lesions in infants resembling those of traumatic origin . . ."

"I assume," Dr. Moehring said, "that the author means the lesions were of traumatic origin, and not the infants."

—Medical Tribune-World Wide Report

Recognition of Individual's Immunities May Help to Control Disease

Recognition of each individual's susceptibilities and immunities could bring medical science nearer to effective control of diseases, including cancer and mental illness. This was the opinion expressed by Roger J. Williams, Ph.D., University of Texas biochemist, at a recent National Academy of Sciences meeting in Philadelphia.

"Ignoring the innate susceptibilities which exist in every population—or at least failing to explore them adequately—has been, in my opinion, a serious block to progress in the control of many non-infectious diseases—nutritional, metabolic, degenerative—and including mental disease," he said.

Individual innate susceptibilities observed in both infectious and noninfectious diseases apply to such conditions as gout, arthritis, diabetes, hyperinsulinism, hypo- or hyper-thyroidism, coronary diseases, nephritis, Addison's disease, duodenal ulcers, and endemic goiter, said Dr. Williams. Similar resistances and susceptibilities exist in the case of cancer and mental disease, he declared.

April - - The "Suicide Month"

Spring is the most common season for suicide, and April the month of greatest frequency, report statisticians of the Metropolitan Life Insurance Company.

Some 18,000 persons die by their own hand in the United States each year. The men among them usually choose firearms as their weapon, with hanging and poisoning next on the list of preference. Women, however, are more likely to commit suicide by poisoning; firearms and hanging account for most of the rest.

While the annual suicide rate in the United States is at least twice the toll in homicides and 12 times the loss of life in all types of aircraft accidents, the U. S. suicide rate is no more than half that recorded in Austria, Hungary, West Germany, or Japan. More Americans do commit suicide than do persons in Canada, Ireland, Greece, or a number of the Latin-American countries.

Mental Health Careers To Be Spotlighted

The 1961 Mental Health Week observance slated for April 30-May 6 will feature a mental health careers program designed to alert young people and adults to the variety of mental health professions and occupations. Suggested community-centered activities include high school mental health career assemblies, mental health career displays on public library shelves, public window displays, and use of meetings, plays, conferences, and films for young people, as well as especially-planned hospital tours.

Loyd Benefield, Oklahoma attorney, has been named national campaign chairman for the National Mental Health Association's 1961 fund-raising drive. State chairman of the Democratic party in Oklahoma from 1956 to 1960, he was New York Governor Averell Harriman's national campaign director when he sought the presidential nomination in 1956.

Personals

Dr. Carl A. Nau, chairman of the department of preventive medicine, University of Texas Medical Branch, Galveston, is author of an article citing the dangers of carbon monoxide to human life which was published in the February issue, *Medical Times* magazine.

Dr. John T. Mallams, Dallas, has been elected a fellow in the American College of Radiology.

Dr. Frances Davis, Amarillo psychiatrist, became the bride of *Dr. John Wesley Makeig,* Amarillo orthodontist, on Feb. 9.

Dr. Robert A. Price, staff physician at the Amarillo VA hospital, has been made a diplomate in the American Board of Internal Medicine.

Dr. Benedict E. Abreu, 47, associate director of research for the Pitman-Moore Company, has been appointed professor and chairman of the University of Texas Medical Branch Department of Pharmacology; he is to assume his new duties in the early summer. *Dr. Abreu* is author or co-author of more than 100 scientific papers published in leading journals.

Dr. John Paul North, chief of the surgical service, Dallas VA Hospital, and clinical professor of surgery, University of Texas Southwestern Medical School, is director of the American College of Surgeons.

New officers of the Texas Academy of Internal Medicine are *Dr. Hugo T. Engelhardt,* Houston, president; *Dr. David W. Carter, Jr.,* Dallas, president-elect; and *Dr. Sam C. Arnett, Jr.,* Lubbock, secretary-treasurer.

Dr. Theodore P. Votteler, Dallas, has been elected to membership in the section on surgery of the American Academy of Pediatrics.

Dr. Ernest E. Miller, Beeville, is on the Executive Committee of the Texas Rehabilitation Center of the Gonzales Warm Springs Foundation.

Dr. May Owen, retiring president of the Texas Medical Association, was guest speaker at the Brady Lions Club scholarship banquet, honoring 54 honor students, recently.

Dr. F. C. Rehfeldt, Fort Worth, has been named a director of the Continental National Bank in that city.

Dr. Donald M. Paton, Houston obstetrician and gynecologist, and *Dr. Joseph W. Goldzieher,* San Antonio medical endocrinologist, were among guest speakers during a March postgraduate course at the University of Texas Medical Branch.

Dr. Moise D. Levy, Sr., Houston, was honored at a recent dinner marking his retirement from the Southern Pacific Hospital, which he served as chief internist for 20 years. He was presented a scroll listing names of 33 medical residents who had worked under him since 1922.

Dr. Denton Kerr, Houston, past president of the Texas Medical Association, was featured speaker at the annual United Fund banquet in Orange this spring.

Dr. Rex Kirkley, chairman of the Texas Medical Association's Committee on Health Insurance, discussed voluntary health insurance programs before the Bell County Farm Bureau at its recent county-wide meeting in Temple.

Dr. and Mrs. Feliks Gwozdz, Fort Worth, were honored with a simulated "This Is Your Life" program recently by the St. Andrew's Catholic Church choir, which *Dr. Gwozdz* directs. The physician was sent to Dachau concentration camp from Poland during World War II; his life since that time was traced in the program.

Blood Bankers Elect Dr. Ralph Erdman

Dr. Ralph R. Erdman, Amarillo, was elected vice-president of the South Central Association of Blood Banks when members of that six-state group held their third annual meeting March 3-4 in New Orleans.

Others elected were Dr. Albert L. McQuown of Baton Rouge, president; L. Ruth Guy, Ph.D., Dallas, secretary; Florence Del Prete, Amarillo, treasurer; Norma M. Bender, Baton Rouge, director; Dr. Harold V. Beighley, Albuquerque, director; and Inkermann C. Scott, Tyler, director.

The 1962 meeting of the association will be held in Fort Worth at a time to be announced later.

VA Improvement Ideas Sought

The 130,000 employees of the Veterans Administration Department of Medicine and Surgery are being invited to submit ideas on ways to improve patient care in 170 VA hospitals, 91 outpatient clinics, and 18 domiciliaries. To encourage the submission of ideas in "Operation Tell Us," an award of $250 is being made through the Department of Medicine and Surgery Incentive Awards program for the best idea adopted. At least five other awards, of $100 each, will be made. Deadline for suggestions is April 30, 1961.

Hereditary Link Found In Cerebral Palsy

Identification of abnormal chromosomes in a brother and sister with cerebral palsy is considered a definite link in a growing chain of evidence that cerebral palsy is hereditary in some cases.

Such is a report released by the University of Texas Medical Branch, where Johanna Blumel, Ph.D., of the Orthopedic Surgery Department—together with Y. Ohnuki, Ph.D., and A. Awa, Ph.D., formerly of Japan's Hokkaido University—have been conducting a study of cerebral palsied siblings.

The two children studied had congenital cataracts, in addition to a severe (spastic-aspastic) type of cerebral palsy. In intensive study of the children and their parents, it was found that in each child one of the paired sex chromosomes (XX or XY) was abnormal, although its corresponding chromosome was normal.

Chromosome studies of the parents showed normal genetic material. It was concluded, then, that since both the boy and the girl had the abnormal X chromosome, these had to come from the mother. The daughter was afflicted to a lesser degree than the son.

Dr. Blumel and her associates assume that the abnormality in genetic material occurred before the mother was born, during early stages of fetal growth when the reproductive organs were being formed.

A report of this study and explanation of the theory is being published in the English scientific journal, *Nature*. The sibling investigation was only part of a long-term study conducted by Dr. Blumel, in which more than 200 children with cerebral palsy have been studied. All phases of the disease, including genetic, metabolic, and clinical aspects, have been investigated. From the work completed thus far, it has been concluded that in addition to such factors as prematurity, developmental factors, and birth injuries, the genetic component must be considered.

Fire Damages Taylor Hospital

Johns Clinic and Hospital, Taylor, was heavily damaged by a fire March 11, but its patients were evacuated safely with the aid of the staff and many Taylor citizens. The fire was concentrated in the old portion of the hospital, which was built in 1912 by the late Dr. H. R. Floeckinger. Dr. J. J. Johns was attending a medical meeting in Chicago at the time of the disaster.

Nursing League Workshop Director Appointed

Miss Rachel Thompson, R.N., has been appointed director of the Texas League for Nursing Workshop programs in nursing management skills, the president, Miss Stella McCullough, R.N., has announced.

A native of Illinois, Miss Thompson has had extensive training and experience in Chicago hospitals and graduated with honors from the University of California with a master of science degree in nursing service administration.

Financed by the Division of Nursing Resources of the Department of Health, Education and Welfare, the workshops are planned for head nurses and scheduled in four regional areas. The objectives are to improve patient care by helping key personnel in nursing to become more aware of responsibilities for planning and evaluating nursing care, for developing the personnel assigned to nursing serivce, and for providing tools to carry out these responsibilities more effectively.

Miss Thompson is replacing Miss Ruth L. Smith, R.N., in the League's Austin office.

AMA Welcomes Paper Titles For 1962 Session Now

It's a year away, but . . .

The American Medical Association's Council on Scientific Assembly is inviting physicians to submit titles and brief abstracts of scientific papers they wish to deliver at the 1962 annual meeting of the American Medical Association in Chicago. Deadline for submittal is October 15, 1961.

"We would like to receive as many titles and abstracts as possible," says Council chairman Dr. Samuel P. Newman of Denver. "In that way we have better selection and this, in turn, assures a more timely and better scientific program."

He urges physicians to write members of the Council in their own regions and to discuss prospective papers with them. Texas' member of the nine-man group is Dr. J. Arnold Bargen, Temple.

Those who wish to participate in the Chicago convention scientific program, June 11-15, 1962, may also write for more information to Dr. Charles Bramlitt, secretary, Council on Scientific Assembly, AMA, 535 North Dearborn Street, Chicago 10.

Physical Handicap Need Not Deter M. D.

Many doctors today set an example for their profession and their patients by practicing medicine despite severe physical disabilities.

Medicine itself is beginning to adopt the modern rehabilitation philosophy that at least 90 per cent of the disabled can work successfully in a competitive environment. Writing in the January issue of *The New Physician,* Dr. Howard Rusk told new doctors and doctors-to-be: "It is not necessary to run the hundred yard dash in 11 seconds or to play five sets of fast tennis to be a good doctor."

The author told of several physicians who, despite severe handicaps, are "top-flight doctors." One psychiatrist became a paraplegic after being shot in the spinal cord by a psychotic patient. After she learned to walk with braces and crutches, she passed her specialty exam with honors. For the last five years she has been a staff member of the National Institute of Health in Bethesda, Md.

Another doctor from India, paralyzed from the waist down as a result of an auto accident, is studying surgery of the hand to help patients with Hansen's disease. This woman, studying in the United States under a grant from the World Rehabilitation Fund, can perform such operations well from a wheelchair.

According to Dr. Rusk: "With our great shortage of physicians and of qualified candidates for medical school, we simply cannot waste such precious manpower." He cited a leading teacher and researcher in endocrinology who ". . . made magnificent contributions for more than 25 years, although severely affected with Parkinsonism."

"In the past, most medical schools were very rigid in their physical, as well as academic, requirements for admission. This attitude has gradually changed and now both medical schools and the medical profession are realizing that medicine is practiced by a trained mind and a dedicated heart."

Dr. Rusk is professor and chairman of the Department of Physical Medicine and Rehabilitation, New York University Medical Center, and an associate editor of *The New York Times.*

Professional Nurses Increase

The number of professional nurses employed in the United States topped the 500,000 mark for the first time in January, 1960, that total covering some 3,000 in Alaska and Hawaii, who were not included in previous estimates. At least 90,000 of the total figure are working only part-time. The 1960 estimate represents an increase of 44,000 since 1958.

Mental Health Patients Enjoy Unique Camp Life

The only camp of its kind in Texas, and one of two in the nation, is the H. E. Butt Foundation Camp, near Leakey, where 60 patients from state hospitals in Austin, San Antonio, Terrell, Rusk, Wichita Falls, and Big Spring spend 3 weeks each September. The Foundation makes the camp available without charge to the hospital system.

The camp was begun 6 years ago, when Dr. Luther Ross, superintendent of the Kerrville State Hospital, found that geriatric patients there who spent a day at the Foundation were much happier for the experience. Mrs. Howard E. Butt, a member of the State Hospital and Special Schools Board, observing these benefits, offered use of the camp free of charge to other state hospitals.

The campers make the few rules needed to take care of safety measures as the need arises. Each of the bunkhouses takes care of 15 patients and one counselor, and the campers are free to roam about the camp as they wish. Duties include cleaning the cabins and helping in the kitchen. Among the supervised activities are swimming, nature trail hiking, games, and fishing. Campers also enjoy singing around the campfire at night after listening to tall tales about the area and its old timers.

Military Surgeons Name Officers for 1961

New president of the Association of Military Surgeons of the United States is Dr. Leroy E. Burney, the Surgeon General of the United States Public Health Service, Washington.

Other officers are Major General James P. Cooney of New York, Vice President for Medical Affairs of the American Cancer Society, first vice president; Rear Admiral Calvin B. Galloway of Washington, Assistant Chief for Research and Military Medical Specialties, Bureau of Medicine and Surgery, second vice president; Colonel Robert C. Kimberly of Baltimore, staff of the Johns Hopkins Hospital, third vice president; Dr. William S. Middleton of Washington, chief medical director of the Veterans Administration, fourth vice president; Major General M. Samuel White of Randolph Air Force Base, Surgeon, Air Training Command, fifth vice president; and Brigadier General Frank E. Wilson of Washington, executive vice president of the Joint Blood Council, Inc., sixth vice president.

Colonel Robert E. Bitner, U. S. Army, Retired, is secretary of the association.

Agencies Urge Appropriation To Curb Record VD Rise

Pointing to a sharp and steady climb in infectious syphilis and gonorrhea in the United States for the past 3 years—and forecasting an even sharper upswing in 1961—three national agencies have called for a program to "eliminate syphilis as a public health hazard in the United States."

The American Social Health Association, the American Venereal Disease Association, and the Association of State and Territorial Officers have released their *Eighth Annual Joint Statement on Today's VD Control Problem* and asked $10 million dollars as the federal share of such a program in fiscal year 1962. State and city health departments would provide an additional $15 million.

Among facts presented by the joint report:

(1) Early infectious syphilis has risen 87 per cent in the United States since fiscal 1958. During July-September, 1960, reported cases of early infectious syphilis, thought by many to be almost eradicated, were up 72.2 per cent over the same period for the previous year, the highest ever noted for so short a time in this country.

(2) Reasons for the upsurge include: lag in program activity in the early 1950's and resulting lack of alertness to the problems among physicians and health department personnel; under-reporting, lack of public VD education since World War II, and lack of VD education in the schools; increase in population, particularly transient (24 states cite migrant workers as the group which most often create demands on their VD control programs); increase in the number of homosexuals, listed second by cities among their problem groups; and general increase in sexual promiscuity and mobility among young people.

(3) In the United States, as in other countries, infectious VD has risen greatly among teenagers. This year 31 cities reported increases in the 15-19 year old group, as against 21 cities so reporting a year earlier.

(4) Twenty-five states and 18 cities reported "outbreaks" of VD, the areas not being confined to any one region of the country.

(5) Both state and local programs in VD control are under-financed, according to reports of 33 states and 38 cities. Under present conditions, state programs need at least $817,942 more; city programs $784,000 more; inadequately covered areas $3 million more for personnel.

The tri-agency committee recommends that the total U. S. VD expenditures be increased to approximately $25 million (which would include the aforementioned $10 million additional). It also recommends continuation and broadening of research in sex behavior, in immunology of syphilis, and in the diagnosis of gonorrhea. It urges the Federal Government to continue and expand its practice of encouraging and assisting universities, voluntary agencies, schools and health departments in the development of VD education materials and programs.

Finally, it urges the Joint Committee on Accreditation of Hospitals to reinstate the requirement of blood tests on routine hospital admissions as an accrediting factor.

Help For The Lonely Ones

A walk-in around-the-clock clinic for handling emotional problems has proved to be a popular service of the hospital where it was set up as the first of its kind.

The Trouble Shooting Clinic of City Hospital at Elmhurst, Queens, New York City, created in 1958, has treated 2,000 persons. The clinic is part of the general hospital's community psychiatric program for the prevention and cure of psychiatric and emotional problems. Separate psychiatric seminars for general practitioners, chaplains, guidance teachers, and lawyers are held. A school for parents and a program of annual psychiatric check-ups for children are future aims.

Dr. Leopold Bellak, Larchmont, explained in a recent issue of the *Journal of the American Medical Association* that the clinic is a place where anyone may walk in and simply talk things over. "If general hospitals across the nation were to incorporate at least the idea of a trouble shooting clinic into their program," he said, "a major step might be made in preventive psychiatry." Persons in the clinic "may serve some of the functions of friend, neighbor, family doctor, or even of the closely knit family that has disappeared in the swift changes of our technological society."

Physics, Medicine High with Seniors

Physics is the first choice, medicine the second, of those young Americans who are scientifically bent, according to the annual Science Talent Search conducted by Science Clubs of America and supported by Westinghouse Educational Foundation. Seventeen per cent, or 68 out of 399, of outstanding high school seniors elected medical practice or research in medicine as their chosen field. Physics attracted 20 per cent, or 80 of the students.

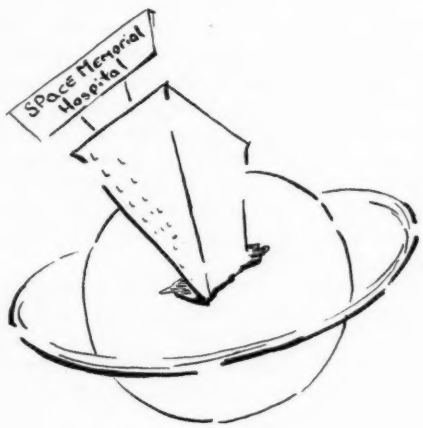
Anything Goes— In Hospital Names

Some unusual statistics about hospitals—namely, about names—were reported in a recent issue of *Hospitals,* journal of the American Hospital Association.

Though the Smiths are America's largest family, there is only one Smith Memorial Hospital in the country, author Elmer L. Harvey, a hospital administrator, has discovered. But 1,134 other hospitals bear "memorial" in their titles, and 1,326 are named after individuals.

Analyzing names of 6,786 hospitals listed in 1959 by the American Hospital Association, Harvey learned:

That hospitals are called by 41 different names, including lodge, retreat, guest house, farm, sanitarium, village, inn, preventorium, sanatorium, facility, infirmary, hall, center, and dispensary.



That the longest name has 65 letters: Primary Children's Hospital of the Church of Jesus Christ of Latter-Day Saints (Salt Lake City).

That of 1,043 hospitals having religious names, St. Joseph, patron saint of the sick, is remembered most often, 134 times. Two hospitals are named for St. Giles, the Cripple.

That hospitals have been named for poets and authors, soldiers, statesmen and politicians, doctors and nurses, explorers and industrialists, nationality groups, geographical areas, rivers, animals, birds, fruit, religious places, saints, and "possibly a few notorious sinners."

"Names of hospitals also may affect—for better or worse—the patients," Mr. Harvey noted. He cited Tombstone General Hospital, Needles Municipal Hospital, Cape Fear Memorial Hospital, Healthwin Hospital, City of Hope Medical Center, and Rising Star Hospital (Rising Star, Texas).

Among the most unusual names turned up were Our Community Hospital (Scotland Neck, N. C.), Boston Floating Hospital, and Deaf Smith County Hospital (Hereford, Texas).

Surgical Progress Seen In Deafness Problems

Loss of hearing, a condition afflicting nearly 6,000,000 Americans, is the leading physical disability in this country, according to *Patterns of Disease.* Twenty-five per cent of all persons with disabilities suffer some degree of deafness, although only 109,000 can be considered totally deaf.

Complications of pregnancy and birth account for a high percentage of hearing disorders among newborn babies and young children, maternal rubella and Rh incompatibility heading the list of causes. Thus, being hard of hearing is not primarily an "old folks' complaint," although the incidence of deafness does increase sharply after 65. In this industrial age, noise-induced hearing loss is becoming an increasingly serious problem.

But, says *Patterns of Disease,* if hearing impairment is becoming an increasingly serious problem, it is also a field in which rapid advances are being made. Particularly encouraging have been results of surgical treatment for patients with otosclerosis, a condition responsible for about 1 in every 5 cases of impaired hearing. Another new operation, tympanoplasty, has proved "useful in restoring tympanic function when the conduction mechanisms involving the middle ear have been damaged by chronic middle-ear or mastoid diseases."

Hypnosis Soothes Children, Says Alaska GP

If a child has a bad cut or breaks a bone, the best immediate treatment may include informal hypnosis, according to an article in the November issue of *GP* magazine by Dr. J. B. Deisher, Seward, Alaska.

Dr. Deisher points out that a light hypnotic trance will relax the child completely. From this point on, the squirming, frightened child becomes a cooperative patient. Treatment is easier and less painful.

The general practitioner said that the injured child, after a good cry, will usually drop off to sleep. The child is then gently awakened and led into light hypnosis by quiet conversation. Dr. Deisher said he tells the child, over and over again, that "everything will be all right." He also applauds bravery.

U. S. Health Service Eyes Flu Epidemics

Dr. Luther L. Terry, Surgeon General Designate of the U. S. Public Health Service, has announced that the Service is studying all aspects of the influenza epidemics now occurring in Great Britain and Japan.

A Public Health Service physician, stationed in London, is sending reports on that country's epidemic to the Service's headquarters there, while data on the Japanese epidemic is supplied to the Service by the World Health Organization. Meanwhile, the Service's Communicable Disease Center in Atlanta is keeping tabs, through state health departments, on increased activity in this country.

Thus far, there seems no indication that the U. S. should expect an unusual number of influenza cases, such as it had last year, Dr. Terry said. Last fall, he pointed out, the Service instituted a campaign to urge private physicians to do all they could to see that flu vaccine was given to persons with cardiac disorders, bronchopulmonary diseases, diabetes, and Addison's disease; to pregnant women; and to all persons over 65 years of age.

New First Aid Kit

A newly developed first aid kit designed to cope with increased casualty rates and with situations where treatment by medical service personnel may be unavoidably delayed is now being tested by the three military services. Measuring 8 by 4 by 4 inches, the kit weighs about a pound and is water and weatherproof. It contains two inner packets. One includes first aid dressing, adhesive bandage, and iodine water purification tablets; the other, dry electrolyte salts, absorbent adhesive bandage, individual first aid dressing, muslin bandage, and water purification tablets.

For Nurses: Early Start

One-fourth of nursing students had decided by the time they were 10 years old that they would become nurses, a recent study by the Columbia University Institute of Research and Service in Nursing Education, reveals. The report suggests that efforts to make nursing attractive to high school girls should be extended into the junior high school level.

Swedish Doctor to Receive Award

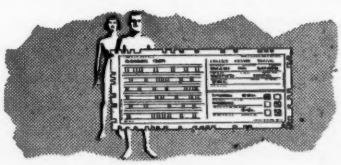
Dr. Clarence Crafoord, professor of thoracic surgery at the Karolinska Institutet and director of the thoracic clinic at Karolinska Sjukhuset, Stockholm, Sweden, will be presented the eighth Rudolph Matas Award in Vascular Surgery April 20 at Tulane University School of Medicine, New Orleans. Established in 1934, the award is made periodically to a physician who has pioneered in the field of vascular surgery. Dr. Crafoord performed the first successful surgical correction of coarctation of the aorta, in 1944; conducted thorough studies on the use of heparin; pioneered in surgical treatment for pulmonary embolism; and invented a heart-lung machine.

Sick Leave Use Tied To Morale, Study Shows

Statistics on use of sick leave in government suggest that employee morale has more effect on absences than the rise and fall of disease in the community or the type of sick leave system, a new study by the Public Personnel Association reveals.

Four units of government—two California cities, a county, and an Illinois city—found similar time patterns of sick leave use. Large numbers regularly reported sick in the first 3 months of the year, and again in October. Low morale seems to be the major cause of this pattern.

Also, employees near the bottom of the organization and those in large work units seem to use more sick leave. This perhaps indicates that a feeling of importance to the organization keeps employees from feeling sick or from reporting sick when they are not, the report suggests.



Childproof Safety Medicine Cabinet

A prototype of a "childproof" medicine cabinet has been developed by Dr. A. L. Chapman, chief of the United States Public Health Service's Division of Special Health Services.

The cabinet has an ingenious locking device, difficult for a child to open, but easy for an adult. Three of its five buttons are "dummies" designed to confuse a child. Only the second and fourth buttons, when pressed simultaneously, will open the cabinet—and these are placed too far apart for a child's hand to reach both at once.

The newly formed Medicine Cabinet Manufacturers Council is drafting standards for safety, size, and durability of the new cabinet, and hopes to introduce an advertising and promotion campaign to stimulate consumer interest in the new fixture.

VA Makes Two Appointments

The Veterans Administration has announced the appointment of Dr. Harry E. Walkup, former chief of surgical service and assistant director of professional services for research at the Oteen, N. C., VA hospital, to the post of assistant director of surgical service at the VA central office in Washington, D. C. He is a diplomate of the American Board of Surgery and of the Board of Thoracic Surgery.

In a second appointment, Dr. Harold W. Schnaper of the Mt. Alto VA hospital in Washington, D. C., was named to the newly-created post of Chief of Research in Internal Medicine for the VA. In his new post, he will coordinate the VA's multihospital cooperative studies in high blood pressure, hardening of the arteries, diabetes, gastroenterology, endocrine disorders, and automatic cardiovascular data processing, and the agency's individual research projects in internal medicine, nationwide.

Blue Cross-Blue Shield

Blue Cross membership in Texas at the end of 1960 had reached a total of 1,318,119 and Blue Shield membership $1,291,153, according to a "21 Year Progress Report" mailed to Blue Cross-Blue Shield members in March. The cumulative figure for benefits to members since Blue Cross began operation in Texas 21 years ago and since Blue Shield began here 16 years ago was $252,204,819.

Texas Handicapped Children and Services to Them on Increase

Almost 17,000 handicapped youngsters—suffering with disabling conditions ranging from harelip to being born without arms or legs—were on the State Health Department's "active" register, according to the *Texas Health Bulletin* of the Texas State Department of Health.

To be eligible for service, state law requires that a patient be under 21 years of age, have normal mentality, and have an impairment involving either muscle, bone, or joint. And, according to law, there must be reasonable expectation that the patient can be benefitted by treatment. About 200 names are added to the active list each month, and the Texas Legislature granted an increase in operating funds for crippled children's services last session.

Consistent increases have been noted for all handicapped conditions, the *Bulletin* points out. Between 1956 and 1958, children receiving care and treatment for birth defects increased from 1,125 in 1956 to 1,663 in 1958. Children treated for crippling bone and joint diseases increased by 225 cases; for cerebral palsy by 156 cases; for polio by 68 cases; and for other diseases or handicapping condition by 97 cases.

Some 413 cases of cleft palate and harelip were corrected in 1956, and 537 in 1958. Second and third degree burn cases reached 262 in 1956, compared with 319 in 1958. Last year, 204 children were helped to overcome heart birth defects—41 of these involving open heart surgery.

Worldwide Malnutrition Problems Discussed in New Volume

"Control in Malnutrition in Man" is a paperbacked, 140-page volume published by the American Public Health Association, Inc., and prepared by internationally recognized experts in nutrition. Designed and written primarily for the physician, nurse, food and nutrition consultant, and others involved in the community control of malnutrition, it considers 30 different malnutrition conditions. Each is discussed in the following pattern: (1) identification, including clinical and laboratory etiology; (2) etiology; (3) occurrence, both as to age and sex, and geographical distribution; and (4) methods of control, prevention, and treatment. Price is $1.50. Copies are available from the American Public Health Association, Inc., 1790 Broadway, New York 19, N. Y.

New Ankle Brace Ahead

A new leg and ankle brace which approximates the normal human ankle and which is expected to revolutionize below knee bracing has been announced by the Easter Seal Research Foundation. The experimental brace will enable crippled persons to walk with relative freedom, permitting all normal action of the ankle (including side-to-side and rotation motion) in contrast to the inhibiting, single up-and-down motion of present braces.

The appliance, not yet ready for production, is the result of a 3 year, $90,000 pilot study at the Biomechanics Laboratory of University of California Medical Center, San Francisco, directed by Dr. Verne T. Inman and financed by Easter Seal funds. The new device will not be made available until adequate clinical trials are completed, although the brace appears to be sound anatomically and physiologically.

The National Society for Crippled Children and Adults is the Easter Seal Society.

Nursing League Meets, Publishes Pamphlet

The National League for Nursing will hold its 1961 biennial convention in Cleveland April 10-14.

Among recent projects of the League is cooperation in the publication of a pamphlet, "Your Nursing Services Today and Tomorrow," which is available to physicians and other interested persons at 25 cents a copy. Requests for copies may be made to the Public Affairs Committee, Inc., 22 East 38th Street, New York City 16.

New Pamphlet Advises Childless Couples

"Why Can't You Have a Baby?" is the title of a new pamphlet written by Dr. Alan F. Guttmacher, clinical professor of obstetrics and gynecology, Columbia University, in collaboration with Joan Gould. The 309th in a series published by the Public Affairs Committee, a nonprofit educational organization, it is available at 25 cents per copy. Requests for copies or additional information should be addressed to the Committee at 22 East 38th Street, New York 16, N. Y.

Beltone Translation Series Available to Physicians

"Investigation of the Statistical Variation in the Sensory Cells of the Organ of Corti in Guinea Pig," the fourteenth in the Translation Series sponsored by the Beltone Institute for Hearing Research, is available to physicians.

In addition to its program for sponsoring original research, the institute is translating, publishing, and distributing a translated series of significant foreign language studies on hearing which are not available in English. Translations are issued without charge to doctors, universities, clinics, libraries, audiologists, and other qualified professional workers. They may be secured by writing to the Beltone Institute for Hearing Research, 2900 W. 36th St., Chicago 32.

Life Is Safer for Aged

Life is becoming safer for older people in the United States, according to the Metropolitan Life Insurance Company.

The accident death rate at age 65 and older has decreased from 224 per 100,000 in 1949 to 164 in 1958, or more than 25 per cent in less than a decade.

The reduced accident death toll among elderly people reflects principally the reduction in mortality from falls. The death rate from this cause among white men aged 65 and over averaged 87.1 per 100,000 in 1957-1958; in 1949 it was 113.6. Among white women, the rates for the two periods were 112.2 and 171.7 per 100,000, respectively.

Despite these reductions, falls are still the leading cause of accidental deaths at ages 65 and over. Motor vehicle accidents rank second as a cause of death in this age group; fires and burns rank third.

Cholesterol Diet Book Out

"The Cholesterol Depressant Diet Book," recently published by the Wesson Oil and Snowdrift Sales Company, is now available to physicians for use in their practices. It will not be offered in any way to the general public. According to W. F. Guinee, company vice-president, the booklet was reviewed favorably by a group of eminent physicians and has already been ordered by 15,000 doctors. Requests may be made to the company at 210 Baronne Street, New Orleans 12, La.

Ten Medical Gains Cited By National Foundation

Ten noteworthy medical research developments in 1960 made possible by public contributions have been cited in a year-end review of scientific gains by Dr. Thomas M. Rivers, vice-president for medical affairs for The National Foundation.

"The American people's money donated through the March of Dimes is working well for them, as this list shows," Dr. Rivers said. "It touches on many research areas, including genetics, birth defects, and arthritis, as well as polio and other virus diseases."

The list, characterized as "selected somewhat arbitrarily and given not necessarily in any order of importance," includes:

(1) Sabin oral polio vaccine approved by the U. S. Public Health Service, the second polio preventive resulting from research program paid for directly by American public.

(2) Success reported in new approach to community disease control through Sabin vaccine trials in Mexico.

(3) Breakthrough in anti-virus drug search, with discovery of a chemical substance that specifically inhibits growth and action of some viruses without damaging cells.

(4) Cancer produced in test tubes, opening the way to study of tumor viruses in test tubes rather than in animals.

(5) Historic virus antibody serum service of the National Foundation transferred to the U. S. Public Health Service.

(6) International Conference on Congenital Malformations held in London in July, highlighting a year in which geneticists, virologists, cellular biologists and others were reporting exciting new knowledge of nucleic acid.

(7) Chromosome abnormality identified in Marfan's disease, the first demonstration of visible evidence of a congenital factor in a connective tissue disease suggesting possible new approaches to understanding other connective tissue disorders such as arthritis and rheumatism.

(8) The second in a projected network of Birth Defects Clinical Study Centers opened (at Vanderbilt) with a March of Dimes grant.

(9) Formation of the Teratology Society to stimulate scientific interest in, and promote exchange of ideas and information about, problems of abnormal development and malformations.

(10) Two "new chinks of light shed on the arthritis puzzle" by two National Foundation grantees: Dr. Henry G. Kunkel of the Rockefeller Institute reported on studies showing that there are at least eight rheumatoid factors rather than a single factor, and that these factors reacted with certain normal human blood components, helping to support the suspicion that the rheumatoid factors are antibodies. Dr. Ernest Witebsky of the University of Buffalo reported on studies in which he succeeded in producing in rabbits a blood factor that acts like human rheumatoid factor; the significance of this is not known, but has interesting possibilities for further research and understanding.

During 1960, The National Foundation awarded $4,048,659 in March of Dimes funds for 77 research grants.

Tape on Aftercare of Patient Available to Psychiatrists

A special report on aftercare, tape recorded during the recent one hundred and sixteenth annual meeting of the American Psychiatric Association, is available through Smith Kline & French Laboratories to Texas psychiatrists and state mental hospital administrators.

Eight psychiatrists report during the hour long recording. Among the points discussed are the roles of the psychiatrist and the general practitioner in aftercare, aftercare for children, and danger of discharge without aftercare.

For further information those interested may write to Smith, Kline & French Laboratories, Philadelphia 1.

Remove Patient From Tape; Not Reverse

The old theory of speedily ripping off adhesive tape has been discounted by Lucile Hoerr Charles, Ph.D., of East Carolina College, Greenville, N. C.

She declares the method can be extremely painful and advocates another simple method: slowly removing the patient from the tape. This she would accomplish by gently lifting corners of the tape with the thumb and the index finger of one hand, and slowly pressing the skin that is just beneath the tape away from the tape toward the center of the bandage. The tape, she says, then will be easily released. After this, continue gently to press away the skin until the tape is entirely off.

★ County Societies

County Society Briefs

The *Tarrant County Society* heard a panel discussion, "Demonstration of a Diagnostic Staff Conference of the Child Guidance Team Under the Direction of Dr. Al K. Marshall," at a recent meeting. Participants included three professional social workers.

During a business session, the group voted to have its Traffic Safety Committee investigate the problem of speeding ambulances in the county.

"The Value of Pulmonary Function Tests in Medical and Surgical Disorders" was the subject of a scientific paper presented by Dr. William F. Miller, associate professor of medicine, Southwestern Medical School, at the March meeting of the *Potter-Randall Counties Society,* Amarillo.

A public relations program which includes a medical TV series, the establishment of a physician-speakers bureau, and the sponsorship of a dinner for the working press was endorsed by the group at its February session. In other recent actions, the society voted to protest to CBS-TV and to the American Medical Association about distortions in "Business of Health" programs; voted to contribute $100 to the Gladys Post Nursing Scholarship Fund in memory of the late Fred Post, managing editor of the *Amarillo Globe-News;* and voted to send $100 to the Northwest Texas Alumnae Association.

Problems concerning care of the aged were discussed by a panel of experts during a recent meeting of the *Andrews-Ector-Midland Counties Society* in Odessa. Moderator was Dr. Ralph Greenlee, Midland. Panelists included Dr. Russell Deter, El Paso; State Senator Crawford Martin of Hillsboro, who served on the Governor's commission to study federal aid to the aged; Mrs. O. C. Hazelwood, Midland, member of the State Welfare Commission; John Hess, administrator of Midland Memorial Hospital; and Earl Benson, administrator of Medical Center Hospital, Odessa.

The *Brown-Mills-San Saba-Comanche Counties Society* heard Dr. Benjy F. Brooks, Houston, discuss "Surgery of the Infant and Child" at its April 11 meeting in Brownwood.

Nine veteran Texas doctors—eight from Lubbock, one from Post—were honored at a Doctors Day Dinner March 28 by the *Lubbock-Crosby Counties Medical Society* and its Auxiliary. They were Dr. Arnold C. Surman of Post and Drs. Allen T. Stewart, Sam G. Dunn, Julius Thomas Krueger, James Hooper Stiles, Frank B. Malone, Otis W. English, Robert T. Canon, and William L. Baugh, all of Lubbock.

Dr. A. Lee Hewitt, society president, was toastmaster. The chief address, "Looking Over Our Shoulders," was made by Charles A. Guy, editor of the *Lubbock Avalanche-Journal.* Special guests included representatives of the Lubbock County Bar Association, dental and pharmaceutical groups, Texas Technological College, city and county administrations, and the Lubbock Ministers Association.

Two County Societies Oppose Proposed School

The Nueces County Medical Society has followed the lead of the Lubbock-Crosby Counties Society in adopting a resolution opposing a proposed government-financed international medical school for training foreign doctors.

The Nueces action was taken during the March meeting of the group, at which Dr. Fred W. Hartwick, legislative chairman, described the international medical school proposed by representatives of various national welfare organizations as "a wedge toward federalization of education and medicine."

No government agency has officially sponsored the program, it was pointed out. It calls for an initial federal expenditure of $25 million for establishing the medical college, in which foreign students would be trained by American standards to practice in their own countries.

The question will be presented to the Texas Medical Association during its annual session in April.

County Society Officers

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Polk-San Jacinto.—President, Dr. Joseph T. Dabney, Jr., Livingston; vice-president, Dr. James H. Dameron, Livingston; and delegate, Dr. Dameron.

Runnels.—President, Dr. Charles F. Bailey, Jr., Ballinger; vice-president, Dr. C. T. Raines, Jr., Winters; secretary-treasurer, Dr. Henry H. McCreight, Winters.

Rusk.—President, Dr. Marlin T. Braswell, Henderson; president-elect, Dr. Alfred S. Wolfe, Henderson; vice-president, Dr. Harold E. Kennamer, Overton; secretary-treasurer, Dr. Alfred E. Morris, Henderson; delegate, Dr. Loyd Deason, Henderson.

Shelby-San Augustine-Sabine.—President, Dr. Laried S. Oates; president-elect, Dr. Thomas L. Hurst; vice-president, Dr. James P. Bridges; secretary, Dr. William C. Windham, all of Center.

Tom Green-Coke-Crockett-Concho-Irion-Sterling-Sutton-Schleicher.—President, Dr. Raymond G. Boster; president-elect, Dr. Lloyd R. Hershberger; vice-president, Dr. Bennett A. Joiner; secretary-treasurer, Dr. Eugene C. Winkelmann; delegate, Dr. Robert M. Finks, all of San Angelo.

Van Zandt.—President, Dr. R. M. Golladay, Wills Point; vice-president, Dr. Horace A. Baker, Wills Point; secretary-treasurer, Dr. Dan Hilliard, Canton; and delegate, Dr. Baker.

Victoria-Calhoun-Goliad.—President, Dr. Allen H. Shields, Victoria; vice-president, Dr. John W. Griffin, Port Lavaca; secretary, Dr. Charles L. Borchers, Victoria; treasurer, Dr. Frederick L. Duckworth, Victoria; delegate, Dr. Joseph V. Hopkins, Victoria.

Washington-Burleson.—President, Dr. Herbert L. Steinbach, Brenham; vice-president, Dr. Charles E. Southern, Brenham; secretary-treasurer, Dr. Thomas H. Giddings, Brenham; delegate, Dr. George V. Pazdral, Somerville.

Webb-Zapata-Jim Hogg.—President, Dr. James S. Reitman; vice-president, Dr. Stephen H. Graham, Jr.; secretary-treasurer, Dr. Leonides G. Cigarroa; delegate, Dr. Joaquin G. Cigarroa, Jr., all of Laredo.

Wharton-Jackson-Matagorda-Fort Bend.—President, Dr. James R. Sawyers, Edna; president-elect, Dr. Isaac Kleinman, Rosenberg; secretary, Dr. Charles L. Bishop, Ganado; delegate, Dr. Granville E. Horton, Wharton.

Wichita.—President, Dr. Edwin C. Bebb; president-elect, Dr. Jack E. Maxfield; secretary-treasurer, Dr. Frank S. Browne; delegates, Dr. Joseph D. Hall and Dr. Robert L. Daily, all of Wichita Falls.

Wood.—President, Dr. Benjamin F. Merritt, Quitman; secretary-treasurer, Dr. Richard P. Lane, Quitman.

First District Elects

Dr. Harold Lindley, Pecos, was elected president of the First District Medical Society during that group's annual meeting in Pecos recently. Others elected were Dr. E. S. Crossett, El Paso, vice-president, and Dr. Gordon L. Black, El Paso, secretary-treasurer. Mrs. Jesson L. Stowe, El Paso, was named Auxiliary councilwoman for the district.

Hospital Positions Discussed

Unfilled positions on hospital staffs are the result of more internships and residencies being approved than are really needed, and are not caused by a decrease in the number of foreign graduates, said Dr. Willard C. Rappleye in *Hospitals,* journal of the American Hospital Association. The real problem of house staff positions is that the number of available internships and residencies far exceeds the number of graduates of American medical schools, and too many of the positions, according to Dr. Rappleye, are designed as service functions rather than for education purposes.

The most logical solution to the problem, he believes, would be the employment of well qualified recent graduates on a full-time or part-time basis by the hospitals. Thus, the young physicians could remain in the positions for several years while establishing themselves in the community.

★ Woman's Auxiliary

Mrs. Garland G. Zedler Accepts Presidency

MRS. GARLAND G. ZEDLER

Mrs. Garland G. Zedler, Austin, is the new President of the Woman's Auxiliary to the Texas Medical Association. She accepted the position after Mrs. William C. Barksdale, President-Elect, resigned for reasons of health.

Mrs. Zedler was born in Dallas, Texas, the daughter of Mr. and Mrs. Wilfred A. Weymouth.

She attended high school in Rockford, Ill., and she received her bachelor of arts degree from Coe College, Cedar Rapids, Iowa, completing her course in three years. During her college days she was active in her sorority, Kappa Delta, and was awarded the pledge scholarship prize. She also was a member of the college debate team and earned her private pilot's license while at Coe. She then went on to the University of Wisconsin Law School and was graduated with the degree of bachelor of laws. She practiced in Madison, Wis., for a year and a half. Two years ago she brushed up on her legal knowledge and took the Texas bar examination. She was admitted to the Texas Bar in September, 1959. She is a member of Pi Kappa Delta, honorary forensic fraternity, and of Kappa Beta Pi legal sorority.

In 1946, Adele was married to Dr. Garland G. Zedler, a native of Yorktown, Texas. Dr. Zedler, a radiologist, was graduated from the University of Texas Medical School and received his specialized training at Mallinckrodt Institute of Radiology, Barnes Hospital, St. Louis, Mo. The Zedlers have two daughters, Gale, aged 14, and Lynn, aged 10.

Mrs. Zedler has served her community in many ways. She has been president of Seton Hospital Auxiliary in Austin. (She has served with the City Panhellenic Association and has been president for two terms of Kappa Delta alumnae association. In 1960, she was chairman of the Sorority State Day.) Active in church work, she served as president of the Women of Good Shepherd Episcopal Church in 1957, and was a delegate to the Austin Council of Church Women for 3 years. She has participated in many activities of the Parent-Teacher Association and has been secretary of that organization. For four years she was the leader of one of her daughter's Girl Scout Troop, and at present is a member of the council training committee. Also she is a member of Delphian, and served as president of her chapter last year. For several years she helped with the United Fund and has also helped with the polio, cancer, and heart drives.

In the Woman's Auxiliary to the Travis County Medical Society, she has worked on various committees and has held the offices of secretary, first vice-president, president-elect, and president. In the state auxiliary she has served on the Reading Committee, Nominating Committee, and on the Legislation Committee for three years, two years as chairman. For two years she was state Treasurer and was recently appointed by the Executive Committee to fill the vacancy in the office of President-Elect.

Her hobbies are reading and sewing. She enjoys being with her family and doing things for them and with them. She is a loyal and devoted Auxiliary member and will not take her new responsibility lightly.

Your Library—

What It Can Do for You

Materials

Your library will send material on loan to you, without charge, within 24 hours after your request is received. It may be kept two weeks or longer if needed.

References

Your library checks the following indexes for each reference request:

Index Medicus.
Current List of Medical Literature.
Quarterly Cumulative Index Medicus.
Index Catalogue of the Library of the Surgeon General.
Abstract Journals.
Excerpta Medica.
New books in our collection.
Journals with abstracts on the subject.

Bibliographies

If you are writing a paper or making a speech on a medical subject, your library will send you a list of all available information on your subject.

Films

Your library will send you a list of available films on medical subjects. The films may be booked in advance and are sent free of charge.

Your library also has films on lay subjects for use with lay audiences. These also must be booked in advance.

All films are 16 mm., with many in both sound and color.

Tapes

Your library has tape recordings available for your use. Most tapes are recorded at 3.75 speed and can be used on any standard magnetic tape recorder. Tapes also are booked in advance.

The library is yours. Have you used it lately?

New Books Received

Association for Research in Nervous and Mental Disease: Neuromuscular Disorders, Vol. 28, Baltimore, Williams and Wilkins, 1960.

Beckman, H.: Pharmacology, the Nature, Action and Use of Drugs, ed. 2, Philadelphia, Saunders, 1961.

Conn., H. F.: Current Therapy, 1961, Philadelphia, Saunders, 1961.

Dreyfus, A.: Information, Please, for Women Only, New York, Vantage Press, 1961.

Eckstein, H.: Pressure Group Politics, the Case of the British Medical Association, Stanford, Stanford University Press, 1960.

Erickson, M. H.; Hershman, S.; and Sector, I. I.: The Practical Application of Medical and Dental Hypnosis, New York, Julian Press, 1961.

Fields, W. S., ed.: Pathogenesis and Treatment of Cerebrovascular Disease, Springfield, Ill., Charles C Thomas, 1961.

Gemmill, P. F.: Britain's Search for Health, Philadelphia, University of Pennsylvania Press, 1960.

Godwin, W. L.: Physicians for the South, Atlanta, Southern Regional Education Board, 1960.

Harvey Society: The Harvey Lectures, 1959-1960, New York, Academic Press, 1961.

Health Information Foundation: An Inventory of Social and Economic Research in Health, ed. 9, New York, Author, 1960.

Hughes, C. W., and Bowers, W. F.: Traumatic Lesions of Peripheral Vessels, Springfield, Charles C Thomas, 1961.

Key, A., and Conwell, H. E.: Management of Fractures, Dislocations, and Sprains, ed. 7, St. Louis, C. V. Mosby, 1961.

Madden, J. L.: Atlas of the Technics in Surgery, New York, Appleton-Century-Crofts, 1958.

Marble, H. C.: The Hand, Philadelphia, Saunders, 1960.

Page, E.: What Price Medical Care?, Philadelphia, Lippincott, 1960.

Peddie, G. H., and Brush, F. E.: Cardiovascular Surgery for Nurses . . ., New York, G. P. Putnam's Sons, 1961.

Rushmer, R. F.: Cardiovascular Dynamics, ed. 2, Philadelphia, Saunders, 1961.

Stanbury, J. B.; Wyngarden, J. B.; and Frederickson, D. S., Eds.: The Metabolic Basis of Inherited Disease, New York, McGraw-Hill, 1960.

Taussig, H. B.: Congenital Malformations of the Heart, ed. 2, Cambridge, Harvard University Press for Commonwealth Fund, 1960.

Willis, R. A.: Pathology of Tumours, ed. 3, Washington, Butterworths, 1960.

Willson, J. R.: Atlas of Obstetric Technic, St. Louis, C. V. Mosby, 1961.

Yahr, M. D., Ed.: Transactions of the American Neurological Association, New York, Springer, 1960.

The Year Book of the Ear, Nose and Throat, 1960-1961, Year Book Medical Publishers, 1961.

The Year Book of Ophthalmology, 1960-1961, Year Book Medical Publishers, 1961.

Young, R. K., and Meiburg, A. L.: Spiritual Therapy, New York, Harper, 1960.

Gifts to the Library

Dr. Gayle Burton, Woodville, 74 journals, 10 bound journals, 3 books.

Dr. Morris Davidson, Austin, 13 journals, 8 pamphlets.

Dr. William L. DeGinder, Austin, 96 journals.

Dr. Walter R. Dunkelberg, Austin, 68 journals.

Mr. Wayne D. Eisaman, Austin, 3 books in memory of Dr. Ralph Eisaman, Brownsville.

Dr. Robert F. Ellzey, Austin, 7 journals.

Mrs. E. C. Ferguson, Beaumont, 12 books.

Dr. Enid Gilbert, Austin, 17 journals.

Dr. John E. Gill, Texarkana, 1 book.

Dr. Homer Goehrs, Austin, 1 book, 1 journal.

Dr. Henry L. Hilgartner, Austin, 58 journals, 23 pamphlets.

Dr. Stanley Hillis, Austin, 198 journals.

Dr. H. J. Kaplan, Bay City, 7 books.

Dr. Sam N. Key, Jr., Austin, 27 journals.

Dr. Marjorie Lawlis, Austin, 248 journals.

Dr. Georgia F. Legett, Austin, 18 journals, 2 pamphlets.

Dr. Robert W. Loveless, Bastrop, 83 journals.

Dr. Claude H. Miears, Austin, 84 journals, 6 books.

Dr. Walter S. Moore, Austin, 18 journals.

Dr. Albert D. Pattillo, Austin, 166 journals.

Dr. Charles F. Pelphrey, Austin, 2 books.

Dr. Eugene P. Schoch, Jr., Austin, 23 books.

Dr. Howard Smith, Marlin, 9 pamphlets.

Dr. A. A. Terry, Austin, 4 books.

Dr. Travis Smith, Abilene, 1,642 journals.

Mrs. Sam Thompson, Kerrville, 27 books.

Mrs. Will Watt, Austin, 162 books, 208 journals.

Mrs. David R. Womack, Austin, 16 journals.

Films Newly Acquired

FUTURE NURSE (1960) sound, color, 16 mm., 18 min., C-107.

A high school girl explores her dreams through a Future Nurses Club. The film shows how the club program enables girls and boys to find out whether they are interested in nursing and allied health careers, and provides opportunities for community service. The role of adult advisers is stressed. Narrated by Pat Boone.

69.3 (1960) sound, black and white, 16 mm., 13½ min., C-106.

This film tells the story of medical progress since prehistoric times, ranging through the Egyptian, Greek, and Roman eras, through the Dark Ages and in many lands up to today. The horrors of the Black Death, types of ancient treatments, startling medical formulas and cures that alchemists stumbled over while searching for the elixir of life are pictured. Touched upon are the contributions of the giants of medicine, Louis Pasteur, Robert Koch, Paul Ehrlich, William Morton, Ignaz Semmelweis and Walter Reed.

BOOK NOTES

Clinical Endocrinology

KARL E. PASCHKIS, M.D., Associate Professor of Medicine, Associate Professor of Physiology and Director, Division of Endocrine and Cancer Research, Jefferson Medical College; Chief of Endocrine Clinic, Jefferson Medical College Hospital; ABRAHAM E. RAKOFF, M.D., Clinical Professor of Obstetric and Gynecologic Endocrinology, Jefferson Medical College; Endocrinologist to the Hospital Laboratories, Jefferson Medical College Hospital; and ABRAHAM CANTAROW, M.D., Professor of Biochemistry, Jefferson Medical College. 867 pages. ed. 2. $18. New York, Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 1958.

A popular textbook of clinical endocrinology, this book has a conventional approach. Each of the commonly accepted endocrine systems is discussed in the order of embryology, anatomy, histology, physiology, pathology, pathologic physiology, diagnosis, and treatment. The medical student will find this an orderly text. Clinicians will appreciate the emphasis given to diagnosis and treatment. Differential diagnosis has been presented in a clear, concise manner.

The authors are conservative men and bear largely on the personal experience, including physiology, biochemistry, cancer research, obstetrics and gynecology, as well as clinical endocrinology. This has allowed the development of a well balanced, integrated volume. Some subjects have suffered from brevity; for instance, diabetes mellitus. On the other hand, certain sections are unique for a book of this size. The chapters devoted to the ovary and placenta provide an excellent survey of gynecic endocrinology.

The reader should find this volume comparable or superior to other textbooks on endocrinology.

—Robert E. Weaver, M.D., Dallas.

Basic Cardiology

T. E. GUMPERT, M.B., Ch.B. (Sheffield), F.R.C.P. (London), Physician, Royal Hospital, Sheffield, and Jessop Hospital for Women, Sheffield; Lecturer in Medicine, University of Sheffield; Examiner in Medicine to the Conjoint Board of England. 157 pages. $6. Bristol, John Wright and Sons Ltd., 1958.

This volume consists of material in lectures given by the author and directed at the student level. The initial chapter opens with the etiologic classification of heart disease, a method of clinical examination of heart and a brief introduction to laboratory aids to cardiac diagnosis. Subsequent chapters are given to discussion of etiologic types of heart disease. The effect on the heart of pregnancy, trauma, and anemia is briefly covered. The significance to be given a systolic murmur is discussed. The final chapter is devoted to consideration of cardiac neurosis.

The author's discussions are brief, superficial, and dogmatic, but by necessity incomplete and occasionally misleading. No mention is made of the use of Isuprel or pacemakers in the treatment of complete heart block with Stokes-Adams attacks. Discussion of gallop rhythm does not recognize more recent advances in interpretation of cardiac extra sounds. In the chapter on hypertension, hyperaldosteronism is neglected. In a brief consideration of the pathogenesis of coronary occlusion, although occlusion by a dislodged atheromatous plaque and subendothelial hemorrhage are noted, thrombus formation is omitted! The chapter on congenital heart disease needs updating. Although direct operations for correction of tetrology have been done in England since 1949, mention is made only of anastomotic procedures. Many will disagree with the statement that "The combination of atrial septal defect together with acquired mitral stenosis is probably commoner than lone atrial septal defect."

Although the author's style and emphasis on clinical acumen is refreshing, this book is of limited scope and usefulness to the general physician or internist. For the medical student, it might serve as a delightful synopsis of cardiology, but certainly not in any sense as a text or reference volume.

—William O. Tschumy, Jr., M.D., Dallas.

Emergency Surgery

HAMILTON BAILEY, F.R.C.S. (Eng.), F.A.C.S., F.R.S.E., Emeritus Surgeon, Royal Northern Hospital, London; Consulting Surgeon, the Italian Hospital; General Surgeon, Metropolitan Ear, Nose, and Throat Hospital; Vice-President, International College of Surgeons. 1138 pages. ed. 7. $32.50. Baltimore, Williams and Wilkins Company, 1958.

This book contains a storehouse of information and is a reference work valuable not only to surgeons, but also to general practitioners and specialists. The organization is simple and clear, and it offers an abundance of fine quality illustrations, line drawings, photographs, and colored plates.

It was of great value in relation to the author's study of the acute abdomen, and more than half of the references for his paper on radiographic considerations of the acute abdomen come directly from this book.

The author knows of no more valuable book on emergency surgery. Some things in which the reviewer was particularly interested were the rules

presented on debridement and excision of wounds and the time relationship to closure. Of particular interest were the graphs of fatality in cases of perforation correlating the number of hours duration with the patient's age.

Subphrenic abscess, its causes, complications, and management is discussed. Even the chest complications which include pleural effusion, empyema, pneumonitis, bronchopleural fistula, and suppurative pericarditis all come in for discussion.

Under the section on General Emergency Measures, such topics as transfusions, electrolyte balance, shock, burns, anesthesia, infections and wounds are discussed as to management and handling of complications. Conditions of the acute abdomen, genitourinary tract, thorax, head and neck and extremities are all covered, with some 500 pages devoted to acute conditions of the abdomen. There are many timely suggestions and nuggets of information that all physicians who see emergency cases would do well to digest. In a national disaster from thermonuclear weapons, all of us may be called upon to make decisions of an emergency nature, and it behooves us to prepare ourselves to function for survival as a nation, as a country, and as a dynamic and resourceful group.

—Joe C. Rude, M.D., Austin.

Christopher's Minor Surgery

Edited by ALTON OCHSNER, M.D., Professor of Clinical Surgery, Tulane University School of Medicine, and MICHAEL E. DEBAKEY, M.D., Professor of Surgery and Chairman of the Department of Surgery, Baylor University College of Medicine. ed. 8. 517 pages. $10.50. Philadelphia, W. B. Saunders Company, 1959.

The new edition brings up to date one of the stand-bys of the general practitioner and surgical resident. Various chapters have been written by a number of contributors, most of whom teach in the Baylor and Tulane medical departments. As in previous editions, stress is upon lesions seen and treated in the physician's office and outpatient department. This edition has a world of detail, practical points both in diagnosis and treatment, which the newly graduated practitioner and even most of the surgical residents completing their hospital internship have had little opportunity to see and treat. This usually happens because they are too preoccupied with the "big" cases to pay much attention to the more minor conditions which they will see in abundance when they begin office practice. This is a well written and excellently illustrated book which can be recommended for the general practitioner as well as the intern and surgical resident.

—Jake Shapira, M.D., Midland.

Progress in Psychotherapy: Anxiety and Therapy

Edited by JULES H. MASSERMAN, M.D., Professor of Neurology and Psychiatry, Northwestern University, Chicago; President, Academy of Psychoanalysis, American Society of Biological Psychiatry, and J. L. MORENO, M.D., New York University, New York City; Co-president, International Congress of Group Psychotherapy; Physician in Charge, Moreno Sanitarium, Beacon, New York. Vol. 2. 253 pages. $7.50. New York, Grune and Stratton, 1957.

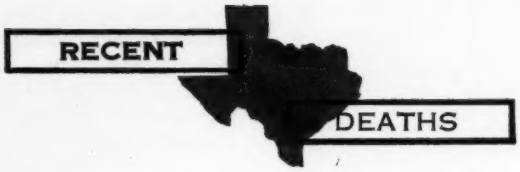
This volume is useful as a progress note in the evolution of psychotherapy, implying the definition of "physiotherapy" as any means which purports to improve the emotional status of the individual." Currently, the term "psychotherapy" is used in a more restricted sense to mean face to face office interview therapy as contrasted with analysis or the more recent emphasis on hypnosis or the chemotherapeutic approaches. Anxiety rightly is the nodal issue and chapters are contributed by specialists whose names have long been associated with the various aspects of anxiety: experimental, military, organic, and as variously expressed in different cultural settings. The major source of these chapters is the section on Psychotherapy of the American Psychiatric Association, with whose approval this series is being presented. Special situational stresses get attention and it is this section which could have a useful appeal to the general physician or nonpsychiatric specialist. To psychiatrists of the Southwest the chapter on Psychotherapy in Mexico in the section on Developments Abroad is of constructive interest, especially in view of recent closer liaison between psychiatrists from both sides of the border.

—David M. Keedy, M.D., San Antonio.

Drugs, Their Nature, Action and Use

HARRY BECKMAN, M.D., Director, Departments of Pharmacology, Marquette University Schools of Medicine and Dentistry; Consulting Physician, Milwaukee County General Hospital and Columbia Hospital. 684 pages. $15. Philadelphia, W. B. Saunders Company, 1958.

This is a new textbook on pharmacology which was prepared as a special type reference for the undergraduate medical student. The book departs from tradition in many ways. The chapters are broken down into pharmacology of the various parts of the body, specific disease entities, drugs that are enzymes, drugs that are hormones, drugs in specific categories, and those used in diagnosis. The bibliographies are selected. A chart of infectious diseases with the preferred drug is handily placed in the front and back covers.



DR. H. K. BRASK

Dr. Holger Kermit Brask, San Angelo obstetrician and gynecologist, died December 7, 1960.

Born in Lacon, Ill., on December 10, 1910, he was the son of Holger J. and Christine (Sorensen) Brask. After receiving his early education in Highland Park, Mich., he earned a bachelor of science degree from the University of Michigan, Ann Arbor, and completed his medical training at Vanderbilt University School of Medicine, Nashville, in 1937. Following an internship at Queen Victoria Hospital for Sick Children, Toronto, Can., Dr. Brask spent 2 years in residency at Vanderbilt Medical School Hospital, and was an instructor in obstetrics and gynecology there from 1938 through 1945.

During World War II, he served in the army medical corps and was awarded the bronze star for his work in Africa and Italy. He held the rank of captain. In 1945, Dr. Brask became associated with the San Angelo Medical and Surgical Clinic. He was certified by the American Board of Obstetrics and Gynecology.

He was a member of the Tom Green-Eight Counties Medical Society, Texas Medical Association, American Medical Association, Southwestern Surgical Association, and the American Academy of Obstetrics and Gynecology. Also, he was a fellow of the American College of Surgeons.

Dr. Brask enjoyed woodworking, leather craft, and making hooked rugs; fishing and hunting were among his hobbies.

Miss Barbara White and Dr. Brask were married November 18, 1938, in Nashville. She survives, as do two children, Virginia and Elizabeth, both of San Angelo, his father, H. J. Brask of Lacon, Ill.; his mother, Mrs. Christine Brask, Lewisburg, Tenn.; and a sister, Mrs. Lynn McCaffrey, Lewisburg, Tenn.

DR. H. K. BRASK

DR. V. Y. McDONALD

Dr. Viola Young McDonald, a Dallas gynecologist, died March 3, 1961, in a Dallas hospital.

She was born November 5, 1907, in Okolona, Ark., and attended grade and high schools there. She received her bachelor's degree from Hendrix College, Conway, Ark., doing additional study at the University of Arkansas, Fayetteville, Ark., and at Henderson-Brown College, Arkadelphia. In 1933, she was graduated from the University of Arkansas School of Medicine, Little Rock. She began practicing in Dallas that year, and continued for one year. She re-entered private practice in 1952, and was active until the time of her death. She was on the staff of St. Paul Hospital, and instructed nurses in the Department of Pathology.

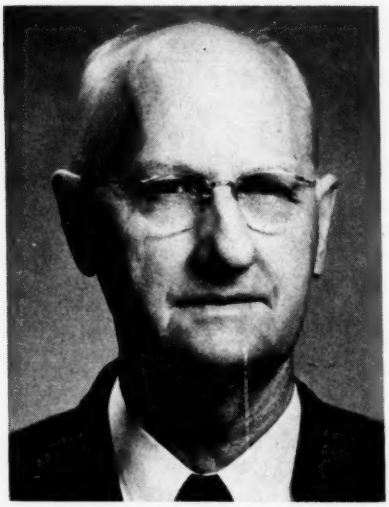
Dr. McDonald was active in many organizations including the American Medical Women's Association, American Medical Association, Pan-American Women's Medical Association, World Medical Association, Texas Medical Association, Southern Medical Association, Dallas County Medical Society and Dallas Diabetes Association.

In addition, she was a director and vice-president of the Dallas Pilot Club and a member of Pilot Club International. She was on the staff of the Young Women's Christian Association and was active in the work of the Camp Fire Girls.

Her husband, Dr. W. Drury McDonald, died in 1952. Two children, Robert Drury and Saradelle of Dallas, survive, as do two sisters, Mrs. Sarah Soderman, Dallas, and Mrs. Roy Smith, Camden, Ark.

DR. C. A. WYATT

Dr. Charles Arthur Wyatt died in Memorial Hospital, Marshall, on February 4, 1961, after a brief illness caused by a heart attack. He was born on June 28, 1886, the son of Christopher Columbus Wyatt and Ella Kinard Wyatt of Beckville.



DR. C. A. WYATT

He attended the public schools of Beckville and Jacksonville Baptist College. He was graduated from Tulane University School of Medicine in 1915. At various times during his career, he extended his medical knowledge by taking courses in New York, New Orleans, Mayo Clinic, and Dallas.

On September 18, 1910, Dr. Wyatt and Miss Carrie Elizabeth Allen of Beckville were married.

He practiced briefly near Henderson and in Joaquin. He went to Marshall in 1920, and remained in active practice until his death. For a period he was associated with the Marshall Medical and Surgical Clinic, and he served as county health officer of Harrison County for several years.

He was a member of the Harrison County Medical Society, the Texas Medical Association, and the American Medical Association.

Taking a deep interest in his community, Dr. Wyatt was associated with the Community Concert Association. He was a past chairman of the Board of Deacons of the Central Baptist Church, a past president of the Kiwanis Club, thirty-second degree Mason, and a member of the Knights of Pythias, Odd Fellows, and Woodmen of the World.

As a hobby, Dr. Wyatt owned a farm and raised stock. He also enjoyed fishing, hunting, and baseball.

Survivors are his wife, four daughters, Mrs. Nelva Nunnally, Dallas; Mrs. Helen Kowite, Torrance, Calif.; Mrs. Evelyn Sibley, Marshall; and Mrs. Carolyn Bruner, Kerens; three sons, Allen Wyatt, Norton, Kan.; Charles Wyatt, Acton, Mass.; and Kenneth Wyatt, Fort Worth; one sister, Mrs. Ada Jordan, Carthage; 10 grandchildren, and a number of nieces and nephews.

DR. JOHN B. WEBB, SR.

Dr. John B. Webb, Sr., 69, veteran general practitioner, died in Donna on October 28, 1960.

Dr. Webb was born in Armour on October 30, 1891, the son of John R. and Ada (Askew) Webb, and one of six children. After attending a country school in Delia and Ford's School for Boys in Austin, he studied medicine at Southern Methodist University, Dallas, graduating in 1914. He interned at St. Paul's Sanitarium, Dallas.

The physician set up his first practice in Hillsboro in 1914. In 1916, he moved to Abbott, and from 1918 to 1923 he served with the U. S. Public Health Service. Between 1923 and 1928, he was employed by the Veterans Administration. Since that time, he had practiced in Donna.

Dr. Webb was a member of the American Medical Association and the Texas Medical Association. In 1942, he was president of the Hidalgo-Starr Counties Medical Society. He was a member of the Christian Church.

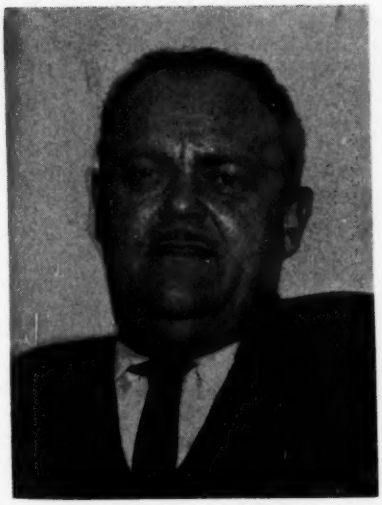
Dr. Webb is credited with the discovery and introduction of the redblush grapefruit, and over the years worked to improve both size and quality of citrus fruit. His hobby was hunting.

Surviving are Mrs. Webb, the former Nevie Lucile Richardson, whom he married in Houston in 1914; one son, Dr. John R. Webb, Jr., of San Antonio; and a daughter, Mrs. Martha Whetsel of McAllen.

DR. V. D. SCROGGIE

Dr. Val D. Scroggie, Fort Worth physician and sportsman, was found dead in his bed January 1, 1961. He had felt ill the day before, but had said the previous evening that he felt better.

He was a charter member of the Fort Worth Sports Car Club, and often drove in sports car races. He was on the Board of Directors for the Sports Car Club of America. He was a licensed pilot, and a member of the Fort Worth Boat Club, Colonial Country Club, and Matthews Memorial Methodist Church.



DR. V. D. SCROGGIE

Dr. Scroggie was born in Charleudix, Mich., August 12, 1909, and received his bachelor of arts degree from the College of the City of Detroit in 1933. He was graduated from Baylor Medical School, Dallas, in 1937, and served a year in rotating internship and one year as a surgical intern at Harper Hospital, Detroit. He also had a 2 year externship at Dallas City Emergency Hospital. He practiced several years in Seminole, operated his own hospital there, and was city health officer. During World War II, he was called to Texarkana to serve as chief surgeon and director of Lone Star Hospital for civilians.

Dr. Scroggie moved to Fort Worth in 1944, and practiced there until the time of his death.

He was a member of the Texas and American Medical Associations, the Tarrant County Medical Society, and the American Academy of General Practice.

Survivors include his wife; a son, William, a student at the University of Texas Southwestern Medical School, Dallas; two daughters, Carol and Val Jeanne; and his mother, Mrs. Anna Scroggie, all of Fort Worth.

DR. J. H. ALEXANDER

Dr. James H. Alexander, Cleveland general practitioner, died in a Houston hospital, February 3, 1961, after suffering a heart attack.

He was born October 8, 1920, in Meridian, and was the son of the late Dr. Joseph H. Alexander and Inez (Lanham) Alexander. He was reared in Zavalla, then attended the University of Wyoming, Laramie, for 1 year before transferring to Stephen F. Austin State College, Nacogdoches, in 1939. War interrupted his schooling, but he returned to earn his bachelor of arts degree in 1946, and was graduated from Baylor University College of Medicine, Houston, in 1953. After interning 1 year at Hermann Hospital, Houston, he spent 5 months there studying radiology. He had practiced in the Cleveland Medical and Surgical Clinic until his death.

During World War II, he was a major and a flight commander. His co-pilot was Hollywood star James Stewart; another close friend during and since the war was Tennessee Ernie Ford. Dr. Alexander received the American Theater of Operations and Victory Medals, and was commended for his part in the capture of a Nazi spy. He had a major part in the wartime movie, "Keep Them Flying."

DR. J. H. ALEXANDER

At the time of his death, Dr. Alexander was being considered for entry in "Who's Important in Medicine."

Active in many groups, he was a member of the Liberty-Chambers Counties Medical Society, Texas Medical Association, and American Medical Association. A thirty-third degree Mason, he also was a member of the Shrine. He held membership in the Houston Doctors Club, the National Rifle Association of America, and the Tri-County Sportsmen's Association, and was active in St. Luke's Presbyterian Church of Cleveland and in local civic affairs, including the police auxiliary.

Business interests included CAPCO Capacitors and the Silver Bit Ranch, where he raised thousands of

registered hogs. An outdoorsman, his only hobbies were shooting and hunting, and he made several trips through the west.

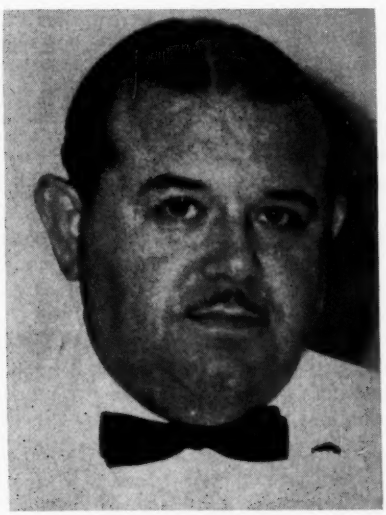
Dr. Alexander and Miss Mary Frances Davis were married in Galveston June 3, 1953. Survivors include Mrs. Alexander; three daughters, Rebecca Ann, 5, Mary Susan, 2, and Jamie Lynne, 3, Cleveland; two sisters, Mrs. J. C. Marshall, Austin, and Mrs. W. B. Weaver, Midland; and one brother, Fred L. Alexander, Cleveland.

DR. B. L. McCLOUD

Dr. Benjamin Luther McCloud, Jr., Mineral Wells, died January 24, 1961, in a Fort Worth hospital. He had been hospitalized for surgery and treatment of a severe streptococcic infection in the left axilla. Apparently he had no resistance to the particular type of infection.

He was born August 10, 1912, in Bryson, and was the son of the late Dr. and Mrs. Benjamin L. McCloud of Graford. It was in Graford that Dr. McCloud attended public schools; he attended Weatherford Junior College and Simmons University, Abilene, before entering Baylor Medical School, then located in Dallas. He was graduated in 1937, and interned at Scott and White Hospital, Temple, before beginning his general practice at Graford.

After a 6 year tour of duty with the army medical corps, he relocated in Mineral Wells, where he practiced until the time of his death. While in the service, he was in Brooke General Hospital in San Antonio first, and later was in the Surgeon General's office, where he supervised the organization of the medical training program for students of the Eighth Service Command. He was overseas 2 years with the Ninety-sixth General Hospital in England, and assumed its command in 1945. He held the rank of lieutenant colonel.



DR. B. L. McCLOUD

Dr. McCloud was a staff member of Nazareth Hospital, was a member of the Texas and American Medical Associations, and was a past president of the Five Counties (Palo Pinto-Parker-Young-Jack-Archer) Medical Society. He was a steward and past superintendent of the Sunday School at the First Methodist Church, and had been a member and vice-president of the school board.

Miss Dorothy Lewellen and Dr. McCloud were married in Haskell on October 14, 1938. Mrs. McCloud survives; other survivors are three daughters, Mrs. Robert F. Burris, Mineral Wells; Mrs. John Murphy, Lubbock; and Benni McCloud, Mineral Wells; his mother, Mrs. B. L. McCloud, Sr., Mineral Wells; a brother, James B. McCloud, Mineral Wells; and a sister, Mrs. Bascom Story, Addis Ababa, Ethiopia; a grandson, Brad Burris, and a granddaughter, Stacy Burris, both of Mineral Wells.

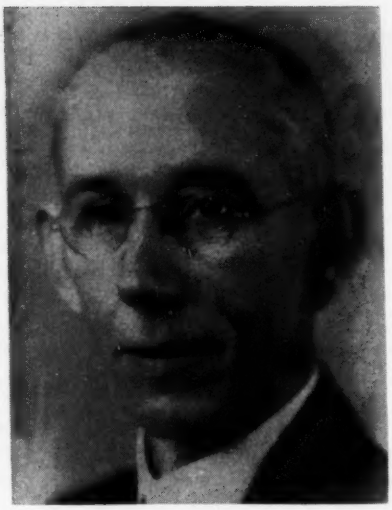
DR. WILLIAM W. LOONEY

Dr. William W. Looney, honorary emeritus professor at the University of Texas Southwestern Medical School, Dallas, died in that city February 28, 1961, after a short illness.

Born September 6, 1891, in Duncanville, Dr. Looney was the son of James Knox and Rosalie Anne (Hight) Looney. After attending North Texas Normal College (now North Texas State), Denton, he received his bachelor's degree from Baylor University, Waco. In 1918, he graduated from Baylor University College of Medicine, then in Dallas. He interned at Dallas' Parkland Hospital.

Dr. Looney was a professor of anatomy at Baylor University College of Medicine from 1918 to 1943, becoming chairman of the Department of Anatomy at what is now the University of Texas Southwestern Medical School from 1943 until 1945. Resigning from this position, he practiced medicine with Dr. Emmett Goode in Greenville for 8 months; then he began his private practice in Dallas, maintaining a clinic there.

Dr. Looney was author of a textbook, *Anatomy of the Brain and Spinal Cord,* and of numerous medical articles. The Medical Library Building at the Southwestern Medical School was named in his honor.



DR. WILLIAM W. LOONEY

He was a member of the American Medical Association, the Texas Medical Association, and the Dallas County Medical Society. He was a past master of Trinity Valley Masonic Lodge.

Dr. Looney is survived by his wife, the former Frances B. Rogers, whom he married in 1912; a son, William Wilford Looney, Jr., Dallas; one daughter, Mrs. Frances Ruth Graham, Dallas; a brother, Lee Looney of Duncanville; and four grandchildren.

DR. W. E. WATT

Dr. William Elliott Watt, Austin physician and surgeon, died February 15, 1961, in Rochester, Minn. He was undergoing treatment for lymphatic leukemia.

Son of Dr. William Neal and Olivia Jordan (Elliott) Watt, he was born November 12, 1891, in Austin. After attending local schools, he entered Ford's Academy. His doctor of medicine degree was awarded in 1915 by the University of Tennessee College of Medicine, Memphis, and after being graduated, Dr. Watt, returned to Austin to enter practice with his father. During World War I, he was a captain in the Army medical corps.

He was a fellow of the American College of Surgeons, and specialized in surgery and gynecology. In addition, he was a member of the Southwestern Surgical Society, Travis County Medical Society, Texas Medical Association, and American Medical Association.

For a time, he was a member of Texas Game and Fish Commission and the State Board of Medical Examiners; he belonged to the First Southern Presbyterian Church, the Scottish Rite Masonic Order, and Ben Hur Shrine.

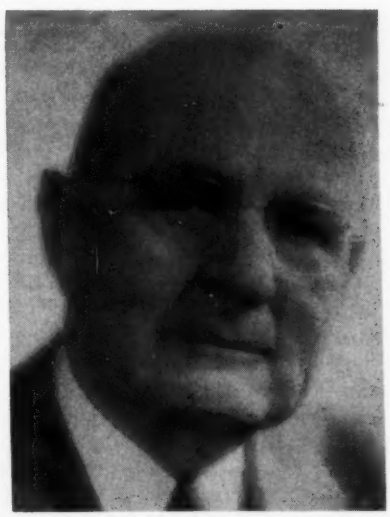
Miss Otis Nichols and Dr. Watt were married February 17, 1920, in Austin. Survivors are Mrs. Watt; a son, William N. Watt, Austin; two daughters, Mrs. Elora Smith, Austin, and Mrs. Otis Benjamin, Fort Worth; a sister, Mrs. Maude Elliott; and two brothers, Dr. Terrence Neal Watt and Earl Stuart Watt, all of Austin; six grandchildren, and one great-grandson.

DR. J. L. PRIDGEN

Dr. John Leslie Pridgen, who was in 1957 feted by the Bexar County Academy of General Practice for "50 years of unselfish service from the horse and buggy age to the atomic age," died in San Antonio February 17, 1961, of carcinoma of the lung.

He was born in Thomaston in 1884; after attending public schools he entered Baylor University, Waco, but earned his doctor of medicine degree from Tulane University School of Medicine in 1907. He began his practice the following year in Karnes County, and moved in 1917 to San Antonio, where he had been an active general practitioner until the time of his death.

Dr. Pridgen was a member of the Texas and American Medical Associations, the Bexar County



DR. J. L. PRIDGEN

Medical Society, and Xi Sigma Xi medical fraternity. He was a thirty-second degree Mason.

Survivors include Mrs. Pridgen; a son, John L. Pridgen, San Antonio; a daughter, Mrs. William B. Ford, San Antonio; two brothers, F. D. and W. B. Pridgen, both of Thomaston; two sisters, Mrs. Ernest Conwell, Cuero, and Mrs. J. C. Brasher, San Antonio; and a grandson, Lt. Sharpe McCullough, now stationed in Hawaii.

DR. C. C. SORRELLS

DR. C. C. SORRELLS

Dr. Charles Clayton Sorrells, retired Dallas physician and honorary member of the Texas Medical Association, died in Dallas on February 23, 1961.

A native of Hartwell, Ga., Dr. Sorrells was born on September 16, 1871, and received his medical training at Vanderbilt University Medical Department, from which he was graduated in 1894. He did some postgraduate work at Tulane University, New Orleans. Before beginning his 34 year practice in Dallas, he practiced briefly in Stringtown, Okla., and Royce City.

Dr. Sorrells enlisted in the service during World War I, but the armistice was signed just before he was to report for overseas duty. During World War II, he served with the Selective Service Board, receiving a medal for his work.

The physician was married twice. Widowed by the death of his first wife, Eva Yeager Sorrells, he married the former Ruth Cottingham in 1938.

Dr. Sorrells was a member of the American Medical Association, the Dallas County Medical Society, and the Oak Cliff Kiwanis Club.

He is survived by Mrs. Sorrells; a son, R. E. Sorrells of Dallas; and a brother, Willie C. Sorrells, Royce City.

DR. J. P. ADERHOLD

Dr. James P. Aderhold died at his San Antonio home on January 21, 1961. Death resulted from a pituitary adenoma recurrent with hemorrhage.

Born May 8, 1905, in Del Rio, he attended local schools and did his premedical work at Rice Institute, Houston. He was graduated in 1928 from Tulane University School of Medicine, New Orleans, and interned at Santa Rosa Hospital, San Antonio; a residency at the University of Rochester Medical School completed his formal training.

He moved to San Antonio and began practicing ophthalmology and otolaryngology in 1933. As a commander, he served in the naval reserve medical corps during World War II.

He was a member of the American Medical Association, Texas Medical Association, Bexar County Medical Society, and American Academy of Ophthalmology and Otolaryngology. Dr. Aderhold was a member of the Laurel Heights Methodist Church and social organizations which included the San Antonio German Club, Texas Cavaliers, and the Canopus Club.

Survivors are Mrs. Aderhold and two children, Laura Louise and James Edward, San Antonio; and two sisters, Mrs. Stillman Long, Del Rio, and Mrs. Dan R. Abbey, Germany.

DR. J. P. ADERHOLD

★ Coming Meetings

American Medical Association, New York, June 25-30, 1961. Dr. E. Vincent Askey, Los Angeles, Pres.; Dr. F. J. L. Blasingame, 535 North Dearborn, Chicago 10, Exec. Vice-Pres.

Texas Medical Association, Galveston, April 23-25, 1961. Dr. May Owen, Fort Worth, Pres.; Mr. C. Lincoln Williston, 1801 North Lamar Blvd., Austin, Exec. Secy.

Current Meetings

APRIL

American Academy of General Practice, Miami, April 17-20, 1961. Dr. John G. Walsh, Sacramento, Calif., Pres.; Mr. Mac F. Cahal, Volker Blvd, at Brookside, Kansas City 12, Executive Secy.

American Academy of Pediatrics, Washington, D C., April 10-12, 1961. Dr. George M. Wheatly, New York, N.Y., Pres.; Dr. E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill., Executive Director.

American Association for Thoracic Surgery, Philadelphia, April 24-26, 1961. Dr. John H. Gibbon, Jr., Philadelphia, Pres.; Dr. Hiram T. Langston, 7730 Corondelet Ave., St. Louis 5, Secy.

American Surgical Association, White Sulphur Springs, W. Va., April 3-6, 1960. Dr. Warren H. Cole, Chicago, Pres.; Dr. William Altemeier, Cincinnati General Hospital, Cincinnati 29, Secy.

Southwest Allergy Forum, Padre Island, April 9-11, 1961. Dr. S. H. Jaros, Harlingen, Pres.; Dr. H. E. Hawkins, 105 W. Elizabeth, Brownsville, Secy.

Southwestern Society of Nuclear Medicine, Oklahoma City, April 8-9, 1961. Dr. Peter E. Russo, Oklahoma City, Pres.; Dr. J. R. Maxfield, Jr., 2711 Oak Lawn Avenue, Dallas, Secy.

Southwestern Surgical Congress, St. Louis, April 10-13, 1961. Dr. Howard D. Cogswell, Tucson, Ariz., Pres.; Mary O'Leary, 813 Medical Arts Bldg., Oklahoma City, Exec. Secy.

Texas Air-Medics Association, Galveston, April 22-25, 1961. Dr. C. D. Henry, San Antonio, Pres.; Dr. C. F. Miller, Box 1338, Waco, Secy.

Texas Association for Mental Health, Galveston, 1961. Mr. William R. Ransone, Dallas, Pres.; Mrs. Lawrence Marcus, 3525 Arrowhead Drive, Dallas, Secy.

Texas Association of Public Health Physicians, Galveston, April 22-25, 1961. Dr. L. P. Walter, Austin, Pres.; Dr. W. V. Bradshaw, Jr., 1800 University Drive, Fort Worth, Secy.

Texas Chapter, American Academy of Pediatrics, Galveston, April 22-25, 1961. Dr. J. T. Bennett, El Paso, Pres.; Dr. W. W. Kelton, Jr., 108 West 30th, Austin, Secy.

Texas Chapter, American College of Chest Physicians, Galveston, April 22-25, 1961. Dr. Hiram M. Anderson, San Angelo, Pres.; Dr. Milton V. Davis, 3707 Gaston Avenue, Dallas, Secy.-Treas.

Texas Dermatological Society, Galveston, April 22-25, 1961. Dr. M. W. Harrison, Houston, Pres.; Dr. D. Shelton Blair, 1609 Medical Arts Building, Dallas, Secy.-Treas.

Texas Diabetes Association, Galveston, April 22-25, 1961. Dr. James A. Greene, Houston, Pres.; Dr. John W. Chriss, 2436 Morgan Street, Corpus Christi, Secy.-Treas.

Texas Industrial Medical Association, Galveston, April 22-25, 1961. Dr. Noble B. Daniel, Texarkana, Pres.; Dr. J. G. Burdick, Pasadena, Secy.

Texas Neuropsychiatric Association, Galveston, April 22-25, 1961. Dr. Clarence S. Hoekstra, Dallas, Pres.; Dr. E. Ivan Bruce, Jr., Galveston, Secy.-Treas.

Texas Ophthalmological Association, Galveston, April 22-25, 1961. Dr. Otto Lippmann, Austin, Pres.; Dr. James H. Scruggs, Waco, Secy.

Texas Orthopedic Association, Galveston, April 22-25, 1961. Dr. Ike S. McReynolds, Houston, Pres.; Dr. Margaret Watkins, Dallas, Secy.-Treas.

Texas Otolaryngological Association, Galveston, April 22-25, 1961. Dr. August J. Streit, Amarillo, Pres.; Dr. Louis E. Adin, Jr., Dallas, Secy.

Texas Physical Medicine and Rehabilitation Society, Galveston, April 22-25, 1961. Dr. Edward M. Krusen, Dallas, Pres.; Dr. Oscar Selke, Medical Professional Building, Houston, Secy.

Texas Society of Anesthesiologists, Galveston, April 22-25, 1961. Dr. Randle J. Brady, Houston, Pres.; Dr. Eugene L. Slataper, Houston, Secy.

Texas Society of Athletic Team Physicians, Galveston, April 22-25, 1961. Dr. W. S. Horn, Jr., Fort Worth, Pres.; Dr. Louis Levy, Fort Worth, Secy.-Treas.

Texas Society of Gastroenterologists and Proctologists, Galveston, April 22-25, 1961. Dr. H. Gray Carter, Dallas, Pres.; Dr. A. C. Broders, Jr., Temple, Secy.-Treas.

Texas Society of Pathologists, Inc., Galveston, April 22-25, 1961. Dr. O. J. Wollenman, Jr., Fort Worth, Pres.; Dr. Vernie A. Stembridge, Dallas, Secy.-Treas.

Texas Society of Plastic Surgeons, Galveston, April 22-25, 1961. Dr. J. B. Patterson, Fort Worth, Pres.; Dr. Raymond O. Brauer, Houston, Secy.-Treas.

Texas Traumatic Surgical Society, Galveston, April 22-25, 1961. Dr. Edward R. Rowe, Galveston, Pres.; Dr. John C. Long, Plainview, Secy.-Treas.

Third District Society, Amarillo, April 15, 1961. Dr. James L. Johnson, Amarillo, Pres.; Dr. H. Fred Johnson, 2308 W. Eighth, Amarillo, Secy.

Texas State Board of Examiners in Basic Sciences, Austin, Houston, Galveston and Dallas, April 14-15, 1961. Henry B. Hardt, Ph.D., Fort Worth, Pres.; Mrs. Betty J. Anderson, Chief Clerk, State Office Bldg., 201 E. 14th St., Austin.

MAY

American Association of Plastic Surgeons, May 17, 1961. Dr. Herbert Conway, New York City, Pres.; Dr. Thomas D. Cronin, 6615 Travis St., Houston 25, Secy.

American College of Physicians, Miami Beach, May 8-12, 1961. Dr. Chester S. Keefer, Boston, Pres.; Dr. E. C. Rosenow, Jr., 4200 Pine St., Philadelphia 4, Executive Director.

American Gastroenterological Association, Chicago, May 25-27, 1961. Dr. Hugh Butt, Rochester, Minn., Pres.; Dr. Wade Volwiler, Dept. of Medicine, University of Washington, Seattle 5, Secy.

American Laryngological, Rhinological, and Otological Society, Lake Placid Club, May 23-25, 1960. Dr. Fletcher D. Woodward, Charlottesville, Va., Pres.; Dr. C. S. Nash, 708 Medical Arts Bldg., Rochester, N. Y., Secy.

American Ophthalmological Society, Hot Springs, Va., May 17-19, 1961. Dr. Edwin B. Dunphy, Boston, Pres.; Dr. Joseph A. C. Wadsworth, 108 E. 68th, New York 21, Secy.

American Orthopaedic Association, Yosemite National Park, May 22-25, 1961. Dr. Edwin F. Cave, Boston, Pres.; Dr. Lee Ramsay Straub, 535 E. 70th St., New York 21, Secy.

American Pediatric Society, Atlantic City, May 2-5, 1961. Dr. L. Emmett Holt, New York City, Pres.; Dr. Conrad M. Riley, Denver General Hospital, Denver 4, Secy.

American Psychiatric Association, Chicago, May 7-12, 1961. Dr. Robert H. Felix, Bethesda, Md., Pres.; Austin M. Davies, 1270 Avenue of the Americas, New York 20, Exec. Assistant.

American Urological Association, Los Angeles, May 22-25, 1961. Dr. John E. Heslin, Albany, N. Y., Pres.; Mr. William P. Didusch, 1120 N. Charles St., Baltimore 1, Executive Secy.

National Tuberculosis Association, Cincinnati, Ohio, May 21-26, 1961. Mr. Herbert C. De Young, Chicago, Pres.; Judge Herman Dehnke, 213 Main, Harrisville, Mich., Secy.

Texas Hospital Association, Dallas, May 15-17, 1961. Dr. F. R. Higginbotham, San Antonio, Pres.; Mr. O. Ray Hurst, 1905 N. Lamar, Austin, Executive Director.

Fourth District Society, San Angelo, May, 1961. Dr. J. G. Bodenhamer, Mason, Pres.; Dr. M. D. Knight, 234 W. Beauregard, San Angelo, Secy.

Ninth District Society, Bellville, Spring, 1961. Dr. Irving M. Watson, Jr., Conroe; Dr. William E. Sharp, 721 E. Texas, Baytown, Secy.

National and Regional

American Academy of Allergy. Dr. Bram Rose, Montreal, Canada, Pres.; Dr. Joseph Noah, 100 N. Euclid Ave., St. Louis 8, Mo., Secy.

American Academy of Dermatology and Syphilology, Chicago, December 2-7, 1961. Dr. Wiley M. Sams, Miami, Pres.; Dr. Robert R. Kierland, Mayo Clinic, Rochester, Minn., Secy.

American Association of Obstetricians and Gynecologists. Dr. Robert A. Ross, Chapel Hill, N. C., Pres.; Dr. Clyde L. Randall, 216 Summer St., Buffalo 22, Secy.

American Academy of Ophthalmology and Otolaryngology. Dr. Dohrman K. Pischel, 940 Post St., San Francisco, Pres.; Dr. W. L. Benedict, 15 Second St. S.W., Rochester Minn., Secy.

American Association for Maternal and Infant Health. Dr. M. Edward Davis, Chicago, Pres.; Mrs. Patricia Dorr, 116 S. Michigan Ave., Chicago 3, Executive Director.

American Association of Genito-Urinary Surgeons. Dr. Reed M. Nesbitt, Ann Arbor, Mich., Pres.; Dr. W. J. Engel, 2020 E. 93rd St., Cleveland 6, Secy.

American Cancer Society. Dr. Warren H. Cole, Chicago, Pres.; Mr. Granville Whittlesey, 521 West 57th St., New York 19, Secy.

American College of Allergists, April 1-6, 1962, Minneapolis. Dr. M. C. Barnes, 1310 Austin Ave., Waco, Secy.

American College of Chest Physicians, New York City, June 22-26, 1961. Dr. M. Jay Flipse, 550 Brickell, Miami, Pres.; Mr. Murray Kornfeld, 112 E. Chestnut, Chicago 11, Executive Director.

American College of Gastroenterology, Cleveland, Ohio, Oct. 22-25, 1961. Dr. Henry Baker, Boston, Pres.; Mr. Daniel Weiss, 33 West 60th, New York 23, Executive Director.

American College of Obstetricians and Gynecologists. Dr. John I. Brewer, Chicago, Pres.; Mr. Donald F. Richardson, P. O. Box 749, Chicago 90, Executive Secy.

American College of Radiology. Dr. Earl E. Barth, Chicago, Pres.; Mr. W. C. Stronach, 20 N. Wacker Dr., Chicago 6, Executive Director.

American Congress of Physical Medicine and Rehabilitation. Dr. F. J. Kottke, Minneapolis, Pres.; Dorothea C. Augustin, 30 N. Michigan Ave., Chicago 2, Executive Secy.

American College of Surgeons. Dr. Owen H. Wangensteen, Minneapolis, Pres.; Dr. William E. Adams, 950 E. 59th St., Chicago, Secy.

American Dermatological Association. Dr. Marion B. Sulzberger, New York, Pres.; Dr. Wiley M. Sams, 308 Ingraham Bldg., Miami 32, Secy.

American Gynecological Society. Dr. Karl H. Martzloff, Portland, Pres.; Dr. A. A. Marchetti, 3800 Reservoir Rd. N.W., Washington 7, D.C., Secy.

American Heart Association, Miami Beach, Fla., Oct. 20-24, 1961. Dr. A. Carlton Ernstene, Cleveland, Pres.; Mr. William F. McGlone, 44 E. 23rd, New York 10, Secy.

American Hospital Association, Sept. 25-28, 1961, Atlantic City. Dr. Edwin L. Crosby, 18 E. Division Street, Chicago, Executive Director.

American Neurological Association, Atlantic City, June 12-14, 1961. Dr. H. G. Wolff, New York City, Pres.; Dr. M. D. Yahr, 710 W. 16th St., New York 32, Secy.

American Proctologic Society. Dr. H. R. Reichman, Salt Lake City, Pres.; Dr. Norman D. Nigro, 10 Peterboro, Detroit 1, Secy.

American Public Health Association, Detroit, Nov. 13-17, 1961. Miss Marion W. Sheahan, New York 19, Pres.; Dr. Berwyn F. Mattison, 1790 Broadway, New York 19, Executive Secy.

American Society of Anesthesiologists, Los Angeles, Oct. 22-27, 1961. Dr. J. Earl Remlinger, Jr., Wilmette, Ill., Pres.; Dr. Robert L. Patterson, 612 Bershire Drive, Pittsburgh 15, Secy.

American Society of Clinical Pathologists. Dr. John J. Clemmer, Albany, Pres.; Mr. Claude E. Wells, 445 Lake Shore Drive, Chicago 11, Executive Secy.

Association of American Physicians and Surgeons, Inc., Grove Park Inn, Asheville, N. C., Oct. 12-14, 1961. Dr. R. J. Moorhead, Yazoo City, Miss., Pres.; Mr. Harry E. Northam, 185 N. Wabash Ave., Chicago 1, Executive Director.

International College of Surgeons, U. S. Chapter. Dr. Henry Meyerding, Rochester, Minn., Pres.; Dr. Ross T. McIntire, 1516 Lake Shore Dr., Chicago, Executive Director.

Radiological Society of North America, Chicago, Nov. 26-Dec. 1, 1961. Dr. H. Milton Berg, Bismarck, N. D., Pres.; Dr. Dwight V. Needham, 713 E. Genesee St., Syracuse 2, N. Y., Secy.

South Central Association of Blood Banks, Fort Worth, 1962. L. R. Guy, Ph.D., 2927 Maple, Dallas 4, Secy.

Southern Medical Association, Dallas, Nov. 6-9, 1961. Dr. Lee F. Turlington, Birmingham, Ala., Pres.; Mr. Robert F. Butts, 2601 Highland Ave., Birmingham 5, Ala., Executive Secy.

Southern Psychiatric Association. Dr. David A. Wilson, Charlottesville, Va., Pres.; Dr. Richard Proctor, Winston-Salem, N. C., Secy.

Southern Surgical Association, Hot Springs, Va., Dec. 5-7, 1961. Dr. Joseph M. Donald, Birmingham, Ala., Pres.; Dr. George D. Lilly, 333 Ingraham Bldg., Miami 32, Secy.

Southwest Regional Cancer Conference, Fort Worth, Sept. 24, 1961. Dr. Robb Rutledge, Fort Worth, Chm.; Mrs. Ira Frances Ball, Westchester House, Fort Worth, Secy.

Southwestern Medical Association, Las Vegas, Oct. 19-21, 1961. Dr. Sherwood Burr, Tuscon, Pres.; Dr. Merle Thomas, 1501 Arizona Building, El Paso, Secy.

Tri-State Medical Assembly. Dr. R. B. Langford, Shreveport, Pres.; Dr. J. W. Wilson, Jr., 940 Margaret Place, Shreveport, Secy.

United States-Mexico Border Public Health Association, San Diego, June 25-29, 1961. Dr. Adán Mercado Cerda, Tamaulipas, Mexico, Pres.; Dr. Ulpiano Blanco, El Paso, Secy.

State

Texas Academy of General Practice, Houston, Oct. 15-18, 1961. Dr. Jack M. Partain, San Antonio, Pres.; Mr. Donald C. Jackson, 1905 N. Lamar, Austin, Executive Secy.

Texas Academy of Internal Medicine, Houston, Dec. 2-3, 1961. Dr. S. C. Arnett, Jr., 2609 19th St., Lubbock, Secy.

Texas Association of Obstetricians and Gynecologists, Dallas, February, 1962. Dr. Hugh W. Savage, 815 Fifth Ave., Fort Worth, Secy.

Texas Club of Internists. Dr. W. W. Bondurant, Jr., San Antonio. Pres.; Dr. T. Haynes Harvill, Medical Arts Building, Dallas 1. Secy.

Texas Division, American Cancer Society. Mr. Curt W. Reimann, 5014 Bull Creek Rd., Austin 3, Executive Director.

Texas Heart Association. Dr. Robert E. Leslie, El Campo, Pres.; Mr. Ernest T. Guy, 404 Jesse H. Jones Library Building, Houston 25, Executive Director.

Texas Pediatric Society, Harlingen, Sept. 22-23, 1961. Dr. James N. Walker, Ft. Worth, Pres.; Dr. C. E. Gilmore, 811 Bonham, Paris, Secy.

Texas Proctologic Society, February, 1962. Dr. Truett Melton, 636 Hermann Professional Bldg., Houston, Secy.

Texas Public Health Association, Houston, Feb. 11-14, 1962. J. N. Murphy, Jr., P. O. Box 5192, Austin 31, Secy.

Texas Radiological Society, Austin, Jan. 19-20, 1962. Dr. R. P. O'Bannon, 1217 W. Cannon, Fort Worth, Secy.

Texas Rheumatism Association, Houston, Dec. 1, 1961. Dr. Horace Wolf, Amarillo, Pres.; Dr. James Kemper, 6655 Travis St., Houston, Secy.

Texas Society on Aging, San Antonio, Dec. 1-2, 1961. Dr. H. J. Friedsam, Denton, Pres.; Mrs. William B. Ruggles, 3701 Stratford, Dallas, Secy.-Treas.

Texas Society of Ophthalmology and Otolaryngology. Dr. D. Garlin Mitchell, Fort Worth, Pres.; Dr. Oliver Suehs, 14 Medical Arts Square, Austin, Secy.

Texas Surgical Society, Oct. 1-3, 1961, Waco. Dr. G. V. Brindley, Jr., Scott and White Clinic, Temple, Secy.

Texas Tuberculosis Association, March 29-31, 1962, El Paso. Mrs. J. R. Walton, Jr., 1407 Andrews Hwy., Midland, Secy.

Texas Urological Society, Houston, February, 1962. Dr. N. F. McDonald, 915 Medical Arts Bldg., Houston 15, Secy.

District

First District Society, Pecos, February, 1962. Dr. G. L. Black, 1501 Arizona, El Paso, Secy.

Second District Society. Dr. M. J. Loring, Midland, Pres.; W. S. Parks, Jr., 2009 W. Wall, Midland, Secy.

Fifth and Sixth Districts Society, Corpus Christi, July 8-9, 1961. Dr. John W. Chriss, Pres.; Dr. James Gabbard, 1001 Louisiana, Corpus Christi, Secy.

Seventh District Society. Dr. Robert N. Snider, Austin, Pres.; Dr. Richard Lucas, 502 W. 13th, Austin, Secy.

Eighth District Society, Corpus Christi. Dr. M. Warren Hardwick, Angleton, Pres.; Dr. J. L. Coleman, Box 3346, Victoria, Secy.

Tenth District Society. Dr. Bedford Mace, Beaumont, Pres.; Dr. Irving M. Richman, 3280 Fannin St., Beaumont, Secy.

Eleventh District Society, Jacksonville. Dr. Marlin T. Braswell, Henderson, Pres.; Dr. Floyd Verheyden, 813 John St., Jacksonville, Secy.

Twelfth District Society, Temple, January 13, 1962. Dr. Woodrow M. Avent, Waco, Pres.; Dr. John Dunlap, 2320 Columbus Ave., Waco, Secy.

Thirteenth District Society, Fort Worth, Fall, 1960. Dr. William B. Allensworth, Mineral Wells, Pres.; Dr. R. D. Moreton, 1217 W. Cannon, Fort Worth, Secy.

Fifteenth District Society. Dr. H. O. Padgett, Marshall, Pres.; Dr. James S. Leeves, Naples, Secy.

Clinics

Blackford Memorial Cancer Lectures, Denison. Dr. Andrew Jensen, Denison, Chm.

Dallas Southern Clinical Society Conference, Dallas, March 19-21, 1962. Dr. C. M. Cole, 1421 Med. Arts Bldg., Dallas, Secy.

International Medical Assembly of Southwest Texas, San Antonio, Jan. 29-31, 1962. S. E. Cockrell, Jr., 202 W. French Place, San Antonio, Exec. Secy.

New Orleans Graduate Medical Assembly. Dr. Maurice E. St. Martin, New Orleans, Pres.; Mrs. Irma B. Sherwood, 430 Tulane Ave., New Orleans 12, Executive Secy.

North Texas-Southern Oklahoma Fall Clinical Conference. Dr. Frank J. Lee, 1300 8th, Wichita Falls, Chm.

Oklahoma City Clinical Conference, Oct. 23-25, 1961. Dr. Vernon D. Cushing, Oklahoma City, Pres.; Miss Alma F. O'Donnell, 503 Medical Arts Bldg., Oklahoma City 2, Executive Secy.

Postgraduate Medical Assembly of South Texas, Houston, July 10-12, 1961. Dr. C. Forrest Jorns, Houston, Pres.; Mrs. W. H. Dahme, 412 Jesse H. Jones Library Bldg., Houston 25, Exec. Secy.

Private Clinics and Hospitals, Houston, Dec. 2-3, 1961. Dr. Van Goodall, Clifton, Pres.; Mr. B. J. Warren, Deaton Hospital, Galena Park, Secy.

Board Examinations

Texas State Board of Medical Examiners, Fort Worth, June 12-14, 1961. Dr. M. H. Crabb, Fort Worth, Secy.; Mrs. Carolyn H. Millard, 1714 Medical Arts Bldg., Fort Worth, Assistant Secy.